



2018

NAVAJO COUNTY

COMMUNITY

HEALTH

ASSESSMENT

SUMMIT HEALTHCARE
NORTHCOUNTRY HEALTHCARE
CHANGEPOINT INTEGRATED HEALTH
NORTHLAND PIONEER COLLEGE
NORTHEASTERN ARIZONA WORKFORCE SOLUTIONS
NAVAJO COUNTY PUBLIC HEALTH SERVICES DISTRICT

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Summary of Findings

The purpose of the Navajo County Community Health Assessment is to describe the **physical** and **social** conditions that affect the **health** of Navajo County.

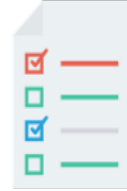
The 4 components of the community health assessment



Review of epidemiological data (e.g. mortality report census information)



Focus groups among residents
Meetings with Navajo County leadership



Survey among residents to ask about health issues, goals, and priorities.

The county has **cohesive communities** with friends & family – it has a **"small town feel."**



3 independent **tribal** communities overlap the county: **White Mountain Apache, Hopi, and Navajo.**

Navajo County has **natural beauty** with

recreational

opportunities such as hiking, skiing, hunting, and golfing.



Key Issues for Health of the Community:



Substance abuse was selected by residents of all age, gender, and ethnic groups as **top concern**.

The county's alcohol-induced death rate is **4 times higher** than Arizona's



1 in 3 Navajo County residents lives in **poverty**.

The **unemployment** rate is higher and the **median income** is lower than they are for Arizona.

Mental health
Is a critical
issue



Thousands of hospital visits for mental health issues and shortage of providers.

The **suicide** rate is
2 times higher
in Navajo County
than in Arizona

Sexually transmitted diseases are epidemic. There were **884 cases of chlamydia** and **336 cases of gonorrhea** in 2017.

Obesity in Navajo County is 2 times higher than it is in Arizona.
There were 3,483 emergency room visits in one year due to diabetes.

Cardiovascular disease and cancer - are the #1 and #2 leading causes of death in Navajo County.



Accessing care

41% of residents who sought healthcare in the past year said they could not get care. 1 in 5 said inadequate transportation is a barrier to getting healthcare. Both tribal and non-tribal communities lament the lack of providers.



Key Population Groups:

Children, seniors, children & adults with disabilities/special needs

Need special consideration due to specific needs



American Indians/Native Americans

in Navajo County are more likely to be obese, be diagnosed with diabetes, die from injuries, or die from alcohol-induced causes.

Access to Indian Health Services helpful but lacking in some ways.



Introduction

In January 2018, a group in Navajo County joined together to conduct community health planning for Navajo County. Led by staff from the Navajo County Public Health Services District (NCPHSD), participants from many agencies began the Mobilizing Action through Planning and Partnerships (MAPP) process, a “community-driven strategic planning process for improving community health.”¹ The process includes multiple phases including organizing the group, creating a vision, assessing the community’s health, identifying issues, developing goals and strategies, and putting those strategies into action. The end goal is to create a public health system in which all organizations are coordinated and communicating with each other to make the system as efficient and effective as possible. All participating individuals and agencies are listed on the acknowledgement pages.

Community Participants

- *ChangePoint Integrated Health*
- *Navajo County Public Health Services District*
- *North Country Healthcare*
- *Northeastern Arizona Innovative Workforce Solutions*
- *Northland Pioneer College*
- *Summit Healthcare*
- *Tribal nations (White Mountain Apache Tribe, Hopi Tribe, Navajo Nation)*
- *Business owners*
- *School and social workers*
- *Behavioral health agencies*
- *Non-profit agencies*
- *Senior living*
- *Governmental organizations*
- *Law enforcement and fire*
- *Planning and development*

One part of the MAPP community health planning process is to conduct a community health assessment (CHA). A CHA examines health and healthcare, including residents’ and leaders’ views of the current state of health in the community as well as epidemiological data on health issues, births, deaths, and other related topics. The Navajo County CHA consisted of four

separate research projects, each of which is described below. The results from these studies are summarized in this report and the detailed information is in the appendices, including detailed data tables covering much of the epidemiological data presented in this report.



CHA Survey Among Residents (CHA Community Survey)

A large scale (quantitative) survey of Navajo County residents was fielded in April and May of 2018. The survey was promoted through email lists, flyers, word-of-mouth, a promotional video, and radio advertisements. The

survey was electronic with capacity for multiple respondents at a single computer for use at library, senior living, or other group settings. Paper versions were also available. The NCPHSD contacted representatives from all three of the largest tribal communities and asked them to forward the survey link further.

Over 1,100 individuals completed the survey, answering a variety of questions related to:

- The health status of the community
- Top community health concerns
- Importance of/need for various services
- Availability of services
- Current health insurance and healthcare status
- Demographics such as age, gender, etc.

Results from the survey will give the planning group direction on the community's strengths when it comes to health, where the needs are, and what barriers are keeping residents from optimal disease prevention practices (such as diet, exercise, vaccination, etc.) and healthcare.

Verbatim quotes from respondents taking this survey will appear throughout this report and are labeled “CHA Survey.”

Epidemiological Data

What are epidemiological data and why are they important to include in a health assessment? Technically speaking, epidemiology is “the study of the distribution and determinants of health-related states or events (including disease), and the application of this study to the control of diseases and other health problems.”² For purposes of this report, epidemiological data is information about disease, health behaviors, and other health-related factors from a number of reliable sources, such as the Centers for Disease Control and Prevention and the Arizona Department of Health Services. Examples of epidemiological data are leading causes of death, number of births, the number of residents diagnosed with diabetes in a given year, the number of residents with mental health issues, and more.



The reason why it is important to consider these data when planning for public health is that these quantitative (large-scale and numerically based) data provide a representative portrait of county health characteristics. They provide the answers to the questions: “How big is this issue?” or “How many residents are affected?”

Focus Groups Among Residents (CHA Focus Groups)

While the survey and the epidemiological data provide the counts and percentages of health conditions among residents and groups of residents, discussions with residents provide the answers to the questions: “Why do we see these health and disease patterns?” “How does this happen?” and “How do you feel about it?” Group discussions allow participants to tell their stories about health and disease and these stories help explain why and how health conditions (healthy and unhealthy) occur. These are qualitative studies – they are on a much smaller scale than the survey or epidemiological data, but more in-depth.

Four Parts of the Community Health Assessment



Survey among over 1,000 residents re: health issues, goals, services



Analysis of epidemiological and other data



Focus groups among residents to hear about residents' experiences with health



Meetings with county supervisors to discuss health priorities

There were two focus groups held among residents. The first discussion was held on March 27, 2018 at the Winslow Visitor Center (Chamber of Commerce) in Winslow, Arizona. Nine participants attended the discussion group. The second discussion was held on March 28, 2018 in Lakeside (near Show Low) at Solterra Senior Center. Ten participants attended the session in Lakeside. There was a professional facilitator and two NCPHSD staff serving as note-takers at each group and sessions were recorded so that verbatim (and anonymous) quotes could be taken from the recordings. The detailed results of the focus groups and the discussion guide used by the facilitator can be found in the appendices. Respondents were not given a monetary incentive but did receive a meal during the sessions and a blood pressure monitor as a gift after the close of the sessions.

The participants represented a range of gender, age, race/ethnicity, marital status, parental status (those with and without children), working status (retired, working full-time, working part-time) and geography (residents of White River Apache Reservation, Heber/Overgaard, Show Low, Winslow, Taylor, and Lakeside). All participants signed consent forms agreeing to participate in the research voluntarily and to be audio taped. Comments from participants appearing in quotes in this report were taken verbatim from recordings. These quotes and other information from this research are labeled "CHA Focus Groups."

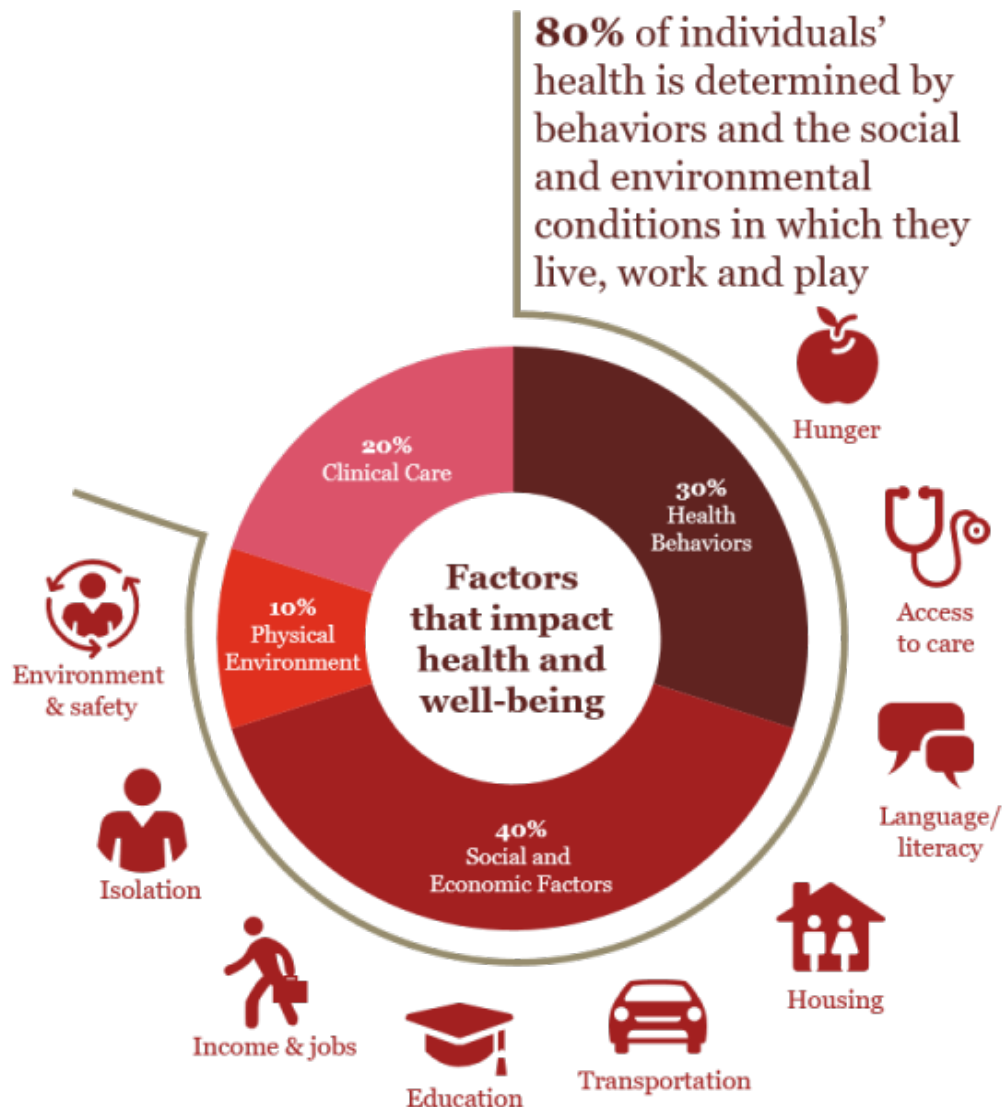
Meetings with Supervisors

One meeting each with two elected officials were held in March 2018. The Navajo County Chief Health Officer, Jeff Lee, facilitated the one-on-one conversations. Each session started with the same questions that were asked in the resident focus groups, including questions on the definition of a healthy community, the most important health problems/issues, and ideas on how to improve the health of the community.

Following these questions, the officials were also asked to identify issues they wanted to learn more about and were given a short briefing on the health assessment process and the status of several health issues in the county.

Social Determinants of Health

This report includes information on topics that go beyond what is often considered “health-related.” That is, it includes topics such as economic conditions, the physical environment, and other issues. What do these factors have to do with health? Research has shown that social, economic, and environmental factors, contribute greatly to health. In fact, they contribute 80% of what determines an individual’s health. Clinical care, such as seeing providers, receiving treatments, etc. contributes only 20%, as shown in the graphic below.³ Therefore, this report is




organized around factors called social determinants of health, such as education, the environment, economy, housing, access to care, and others.

“Health starts in our homes, schools, workplaces, neighborhoods, and communities,” states the Department of Health and Human Services Healthy People 2020 program when describing the social determinants of health. It goes on to say that most people are aware of the behaviors that make us healthy – not smoking, eating well, seeing a doctor when ill, etc. – but they often don’t consider factors such as opportunities for education, economic success, clean water and air, availability of healthy foods, safety and crime, and numerous other factors that affect health, such as the following:



- Availability of resources to meet daily needs (e.g., safe housing and local food markets)
- Access to educational, economic, and job opportunities
- Availability of community-based resources in support of community living and opportunities for recreational and leisure-time activities
- Transportation access and cost
- Social support, such as family, church, and community
- Social norms and attitudes (e.g., discrimination, racism, and distrust of government)
- Exposure to crime, violence, and social disorder (e.g., presence of trash and lack of cooperation in a community)
- Socioeconomic conditions (e.g., concentrated poverty and the stressful conditions that accompany it)
- Culture, language, and literacy
- Natural environment, such as green space (e.g., trees and grass) or weather (e.g., climate change)
- Built environment, such as buildings, sidewalks, bike lanes, and roads
- Exposure to toxic substances and other physical hazards
- Physical barriers, especially for people with disabilities⁴

These are all factors that determine the health of a community and the individuals in that community. This report will touch on many of these topics and paint a picture of the social determinants of health in Navajo County. The report will also present more traditional “health-related” topics (or “health outcomes”) such as births, deaths, disease rates, as well as health disparities between different groups in the community.



*“Health starts in our homes,
schools, workplaces,
neighborhoods, and communities.”*

-- Healthy People 2020

Now that the Community Health Assessment is completed, the next step in the community health planning process will be to create a community health improvement plan to guide public health and healthcare activities for the next five to ten years. This step will take place in the fall of 2018 and will result in a Navajo County Community Health Improvement Plan (CHIP).

Profile of Navajo County

Navajo County is located in northeastern Arizona. The area of the county is 9,960 square miles. About two-thirds of the area (6,633 square miles) is federally designated tribal land, including the Navajo Nation, Hopi, and White Mountain Apache Indian Reservation. The Navajo Nation and Hopi tribal land make up the northern half of the county and the White Mountain Apache Indian Reservation covers a strip at the south end of the county, as shown on the map to the right.⁵

In 2017, the county had 108,956 residents according to the U.S. Census. The population has remained relatively stable over the past six years with only three percent growth since 2012.⁶ The county is mostly rural with only three communities large enough to qualify as cities: Holbrook (the county seat), Show Low, and Winslow. Holbrook has a population near 5,000 and the other two cities have about 10,000 residents each. Holbrook and Winslow are situated on the heavily trafficked U.S. Interstate 40. Snowflake, Taylor and Pinetop-Lakeside are the only towns in the county, each with 4,000 to 5,000 residents. There are additional small communities in the county, such as Kykotsmovi Village in Hopi, Kayenta and Indian Wells in the Navajo Nation, and Fort Apache in the White Mountain Apache Indian Reservation. The county has 11 school districts, eight airports, 14 public libraries, and a Northland Pioneer College, which has campuses in Snowflake, Show Low, Holbrook and Winslow.

The climate is pleasant and conducive to numerous opportunities for outdoor activities, including hiking, biking, golfing skiing, hunting and more. In addition, there are cultural and entertainment opportunities at numerous small museums, the Hon-Dah Casino in Whiteriver, and these sites:

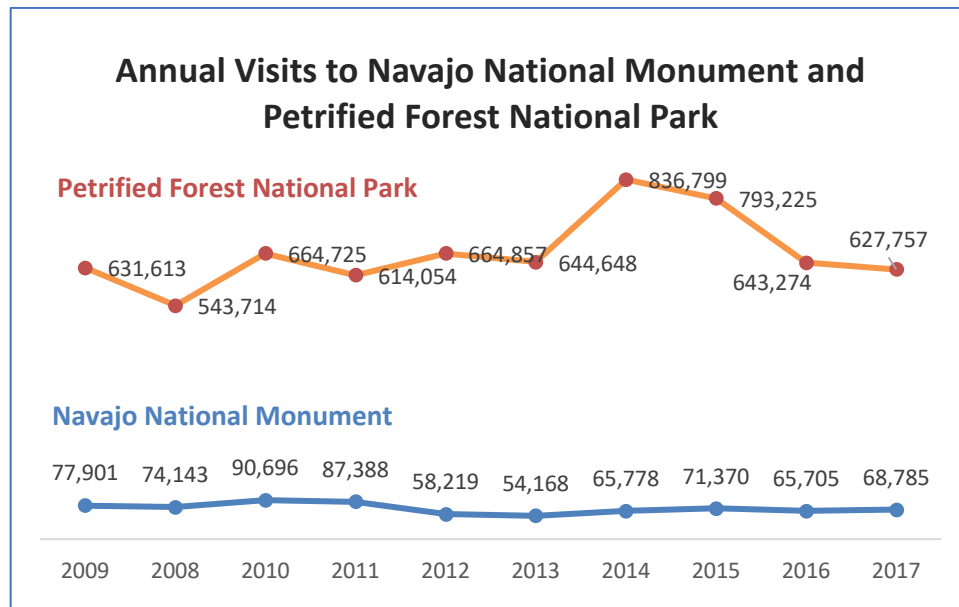
- Navajo National Monument and Monument Valley
- Petrified Forest National Park
- Apache-Sitgreaves National Forest
- Homolovi State Park
- Fool Hollow Recreation Area





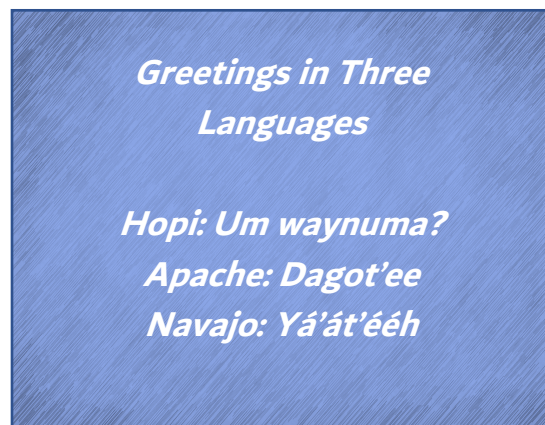
These outdoor areas and other attractions bring an influx of visitors each year. For example, as shown in the chart below, in 2017, over 600,000 individuals visited Petrified Forest National Park and nearly 70,000 visited the Navajo National Monument. In 2014, a peak year, Petrified Forest National Park received more than 800,000 visitors, as shown below.⁷

Politically, Navajo County tends to have more Republicans than Democrats with the majority of votes going to the Republican Party in the 2016 presidential election. According to one description, the voting is often split by American Indians/Native American residents tending to vote with the Democratic Party and white residents tending to vote with the Republican Party. According to Wikipedia, this is due to the significant population of Church of Jesus Christ of Latter-Day Saints (Mormons), who tend to be more politically conservative, “The county has a strong LDS presence (particularly in population centers such as Snowflake) that normally allows republican candidates to carry the county by small margins.”⁸



Tribal Communities

Yá'át'ééh ("Greetings."). The Navajo Nation or *Diné Bikéyah*, is 27,000 square miles and stretches across parts of Utah, Arizona, and New Mexico. It is home to over 150,000 Navajo – about half of the Navajo living in the U.S. There are an additional 30,000 Navajo who live in towns bordering the Navajo Nation, such as Winslow or Holbrook, and 140,000 more who live in locations outside of both the Navajo Nation and Navajo Nation-bordering towns.



The Navajo Nation is governed by 24 council delegates representing 110 chapters or communities. Twenty-three of the 110-chapter house communities are located primarily in Navajo County, with the largest being Kayenta with approximately 6,000 residents.⁹

Um waynuma? ("Greetings.") Like the Navajo Nation, Hopi is a federally recognized sovereign nation. It is located on more than 1.5 million rural

acres most of which is located in the western part of Navajo County. It is surrounded on all sides by the Navajo Nation. There are approximately 7,000 residents living on Hopi, many in the eleven "quasi-independent" villages. Other Hopi individuals live nearby in local towns and other metropolitan areas primarily for purposes of education and job opportunities.¹⁰

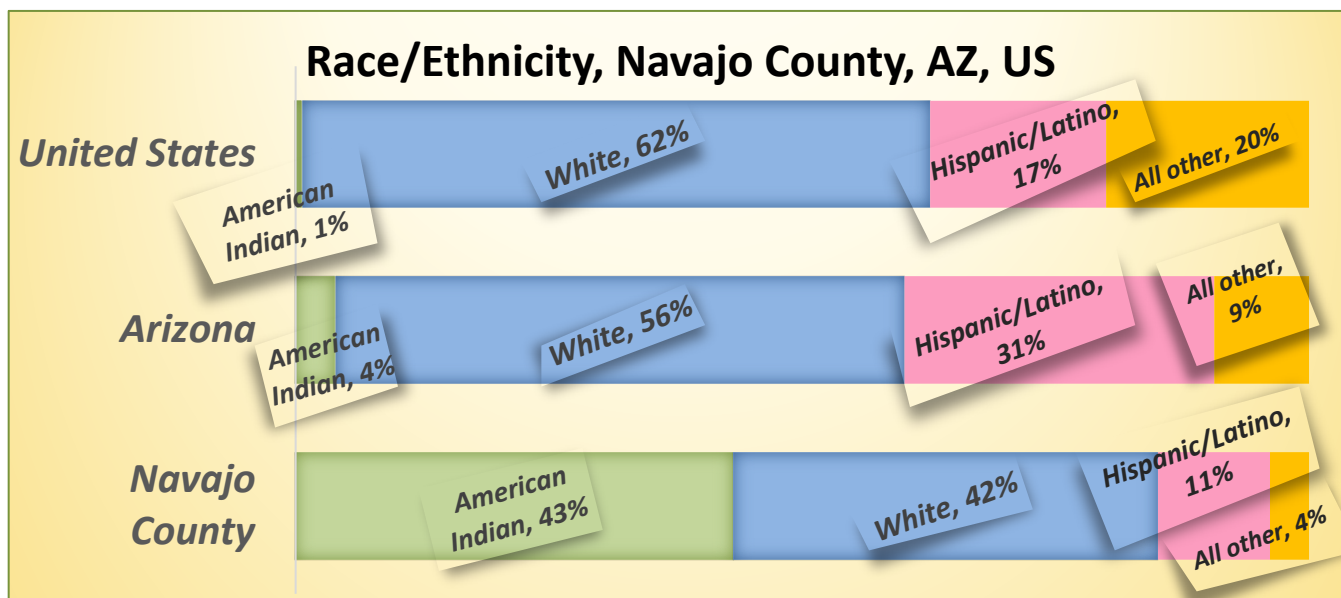
Dagot'ee ("Greetings.") The White Mountain Apache Tribe is "rich in tradition, resources, wildlife, and outdoor recreation," according to their official website. The tribal land, located in the southern part of Navajo County, ranges from elevations of 2,600 feet in the southwest to 11,400 feet at Mount Baldy. It includes many tourist destinations including the Apache and Culture Center and Museum, Fort Apache Historic Park, the Hon-Dah Casino and the Sunrise Park Resort which has skiing in the winter and recreation at Sunrise Lake in the summer. Hunters and fishers can visit the forests and streams for Apache Trout or a Trophy Elk.¹¹



Demographics



Navajo County has a diverse population. About half of the residents (54,271) are male and half (53,938) are female. Eighty-five percent of the population is either white or American Indian/Native American and this is divided almost evenly between the two groups – 43% of the total population is American Indian and 42% is white. There is a small Hispanic population (11%) and the remainder are individuals



of mixed, multiple, or other race/ethnicities. This is quite different from the state as a whole and the nation, both of which have larger percentages of whites and Hispanics. A comparison is shown in the chart above.¹²

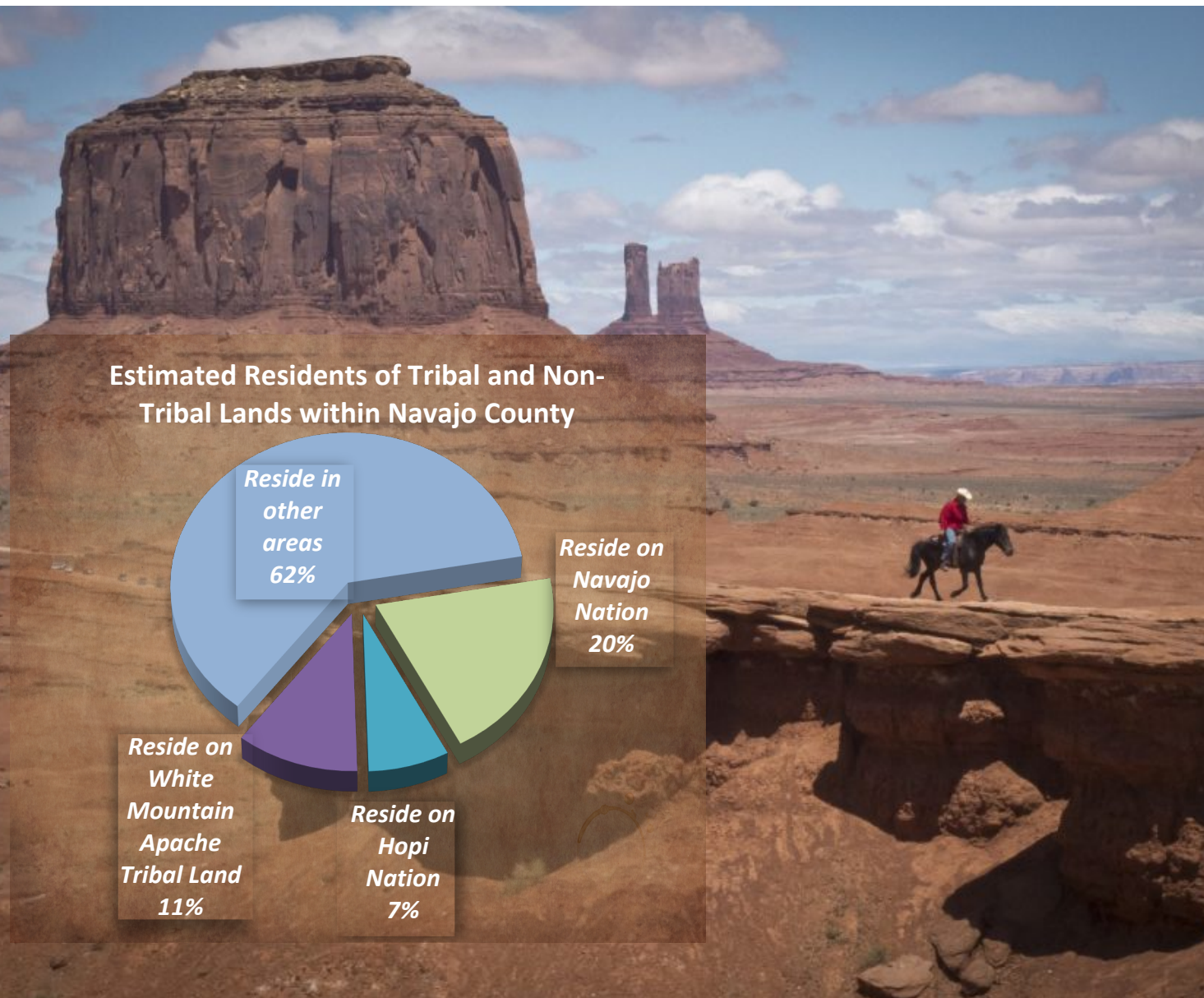
The age make-up of Navajo County leans toward the young side. The median age is 36, which is two years younger than the median age in the U.S. and one year younger than the Arizona median age. As shown in the table below, 28% of the population is under 18, which is five percentage points higher than the comparable figure for the U.S. The percent of seniors is comparable to the state population but somewhat higher than the comparable figure for the U.S. With 56% of the population at the age when most people work and the rest of the population at the age of children and seniors, this represents a high dependency ratio for the working aged population. This is especially true for the child dependency ratio, as such a large proportion of the population is under 18.¹³



As mentioned earlier, Navajo County overlaps with three tribal communities: the lands belonging to the Navajo Nation, the Hopi Tribe, and White Mountain Apache

Age Distribution, Navajo County, AZ, US			
	Navajo County	AZ	US
Under 18	28%	24%	23%
18 to 64	56%	60%	62%
65 and older	16%	16%	14%
Old-age dependency ratio	27.9	26.5	23.2
Child dependency ratio	49.5	40.1	37.0

Tribe. Residents of these three communities make up an estimated one-third of the total Navajo County population, as shown below.¹⁴ It is important to note that not all residents of tribal land are American Indian and there are American Indian residents who live in areas that are not tribal land. For race/ethnicity make-up of the county, see figures shown earlier in this section.





Quality of Life

What makes a healthy community? According to Navajo County residents gathered in focus groups, a healthy community is one with a strong economy, good schools, healthcare, healthy options, and lots of support. Some examples of residents' descriptions of a healthy community are shown in the panel to the right. Both the epidemiological data and residents' comments¹⁵ about the health of the county suggest that some aspects of Navajo County's health are beneficial and some need improvement.

Nationally-recognized county health rankings from the Robert Wood Johnson Foundation place Navajo County as the 14th healthiest county among the 15 counties in Arizona, as shown in the maps

What is a "healthy community"?

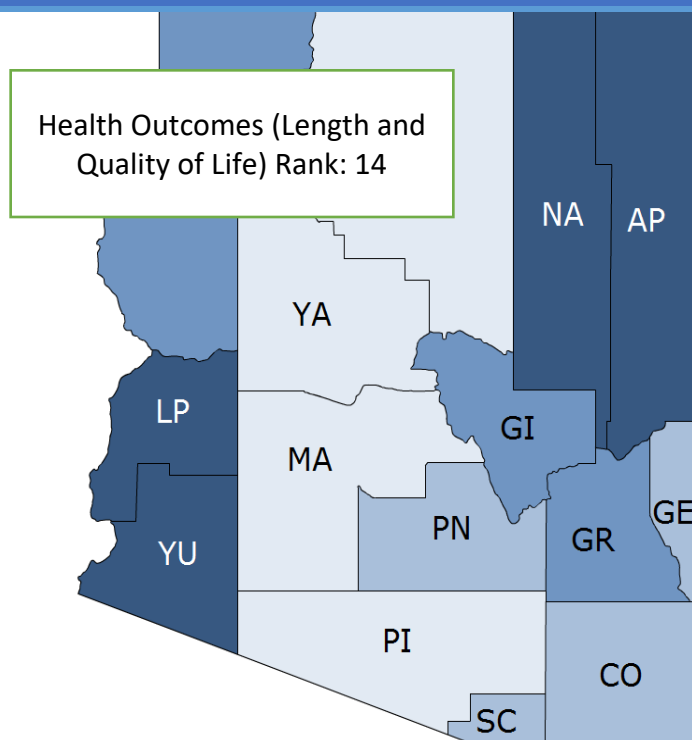
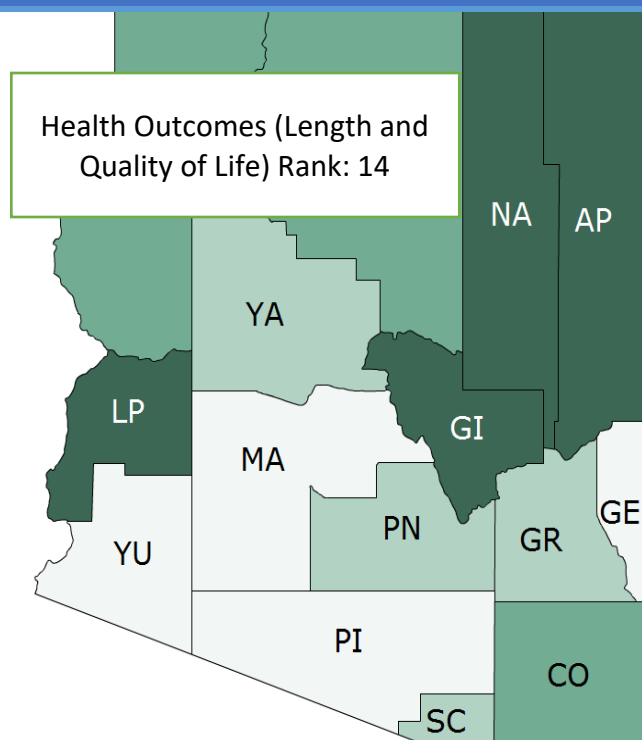
"A good healthy community needs a good school, good community college and a good economic development."

"Eating good. Being active. Exercising. Have the education to know what to do to be healthy."

"I watch a lot of English shows and I just love it when they go to a village and the people are always just, you know, talking about how wonderful their village is, how their parents lived there, how their grandparents lived there... They are very proud."

-- CHA Focus Groups

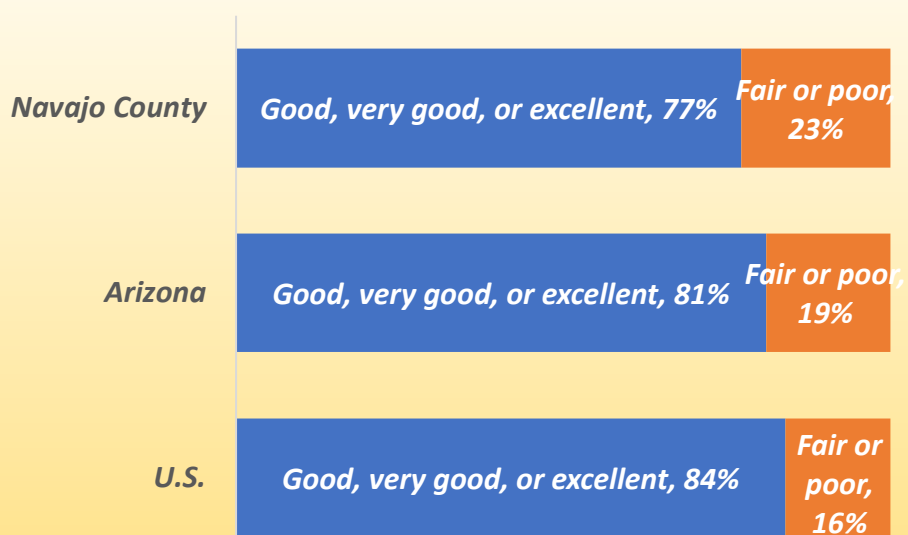
Arizona County Health Rankings, 2018



Rank 1-4 Rank 5-8 Rank 9-11 Rank 12-15 Rank 1-4 Rank 5-8 Rank 9-11 Rank 12-15

above. These rankings are based on items such as premature death, poor physical or mental health, low birthweight infants, substance abuse and many other measures. For example, while Navajo County enjoys a healthy physical environment (ranking of 8 out of 15), the clinical care ranks 12th and unhealthy behaviors, such as tobacco and alcohol use, contribute to a ranking of 14th.¹⁶

Self-Rating of General Health



There are other indicators that the quality of life and the health of the community could be improved in Navajo County, as evidenced by the following:

- In the CHA Survey conducted in 2018 among county residents, when asked to rate the “health of the community,” 66% of respondents rated it as “fair” (54%) or “poor” (12%). Only 2% rated it as “excellent” and 32% gave the county a “good” rating.¹⁷

Top Unmet Needs (of 24 Needs), Navajo County Residents, NACOG Survey, 2018

Food/nutrition, 40%

Healthcare, 38%

Housing, 37%

Prescriptions, 36%

- In a survey spanning four Northern Arizona counties conducted in 2015 and 2016 by the Northern Arizona Council of Governments (NACOG), healthcare was the second most frequently chosen unmet need, (out of 24 options) chosen by one of every three residents as a

“significant need.” Food/nutrition, housing, and prescriptions – all social determinants of health – were also among the top choices, as shown above.¹⁸

- In the Arizona Behavioral Risk Factor Surveillance System (BRFSS), a large survey conducted annually in all Arizona counties, 77% of Navajo County residents rated their own individual health as good, very good, or excellent. The remaining 23% rated their health as fair or poor. The percentage who rated themselves good/excellent was somewhat lower than for Arizona and the U.S., as shown above. This also means that one in four county residents is experiencing less than optimal health.¹⁹

SUICIDE RATE

Navajo County, 32



Arizona, 17.7



U.S., 13.5



Navajo County's rate of
SUICIDE
Is more than
TWICE that of the U.S.

Mental and emotional health are key components to a good quality of life, and experiencing good mental health is a challenge for some residents. On the plus side, 90% of county residents experienced fair or good mental health most days of the month.²⁰ However, this means that 10% -- or one in ten residents -- had poor mental health at least half of the days in the month. In addition, in Navajo County, there were over 2,000 emergency room visits for mental disorders of all types and over 900 inpatient visits for mental or emotional conditions,²¹

and an estimated 40,000 outpatient contacts for general mental health, serious mental health, or substance abuse counseling in one year.²²

Mental health concerns can start early in life, and there are indications among teens that many have mental or emotional concerns. For example, at least half of 8th, 10th, and 12th

More than **HALF** of county
teens felt they
couldn't overcome
mounting DIFFICULTIES



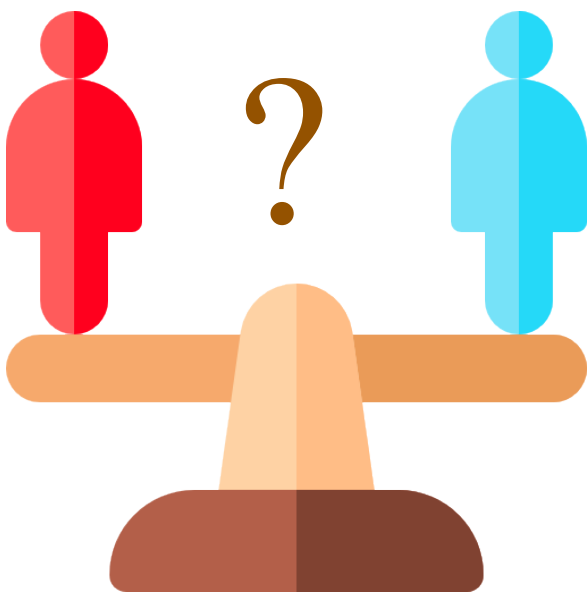
graders interviewed in 2016 agreed that “difficulties were piling up so high” that they “could not overcome them” in the past month. On a more positive note, 79% of 12th graders agreed that some, most, or all of the time they felt “excited about my future.”²³ However, this means that 21% often were not excited about their futures.

Sadly, poor mental and/or physical health can lead to suicide and this is an important indicator of the quality of life. Navajo County’s suicide rate in 2016 was almost twice that of Arizona’s, and more than twice the U.S. rate (per 100,000 residents) as shown above.²⁴ In addition, there were 88 emergency room visits and 21 inpatient admissions at area hospitals due to suicide attempts in 2016.²⁵

Physical health, mental health, and the impact of social determinants vary by group and some groups of residents are affected more or less by them. For example, suicide is in the top three leading causes of death for young residents. Diabetes is highest among American Indian

residents. And injury deaths are more common among men than women. Therefore, the quality of life differs for different groups in the county and these health disparities will be discussed later in the report in the chapters on health disparities.

The remainder of this report will provide information on the health challenges and successes for the community as a whole and for various groups within the community. In addition to this narrative report, there are approximately 180 data tables in the appendices that provide more details on each of the topics discussed in this report.

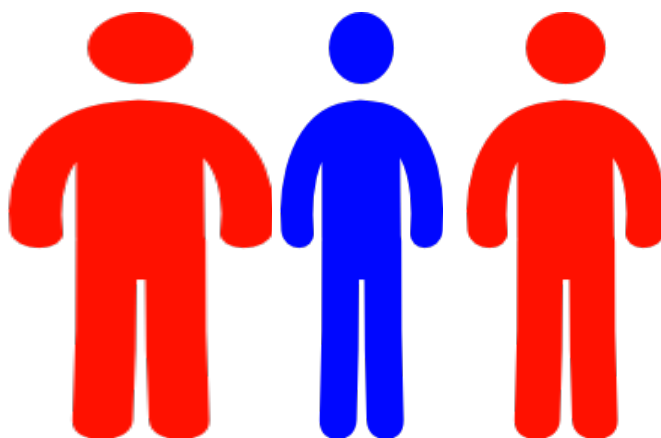




Health Behaviors

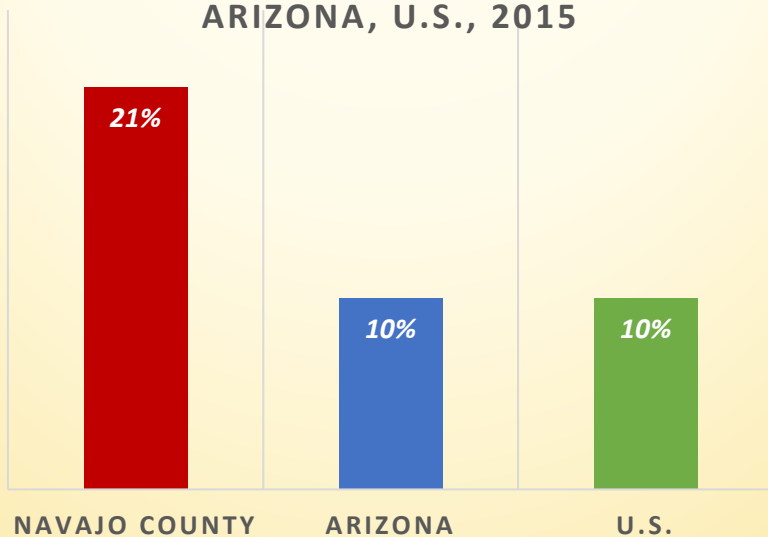
Diet and Exercise

Navajo County has a significant number of residents who are obese or overweight. In fact, about one in every three residents was obese and two in every three residents was either overweight or obese in one study.²⁶ When compared to Arizona and the United States and adjusted for age, in 2015, Navajo County residents were much more likely to be obese (41%) than either Arizona (28%) or U.S. residents (30%).²⁷ Not surprisingly, then, a larger percentage of Navajo County residents reported that a healthcare provider has diagnosed them with diabetes. As shown below, twice as many county residents (21%) than Arizona (10%) or US residents (10%) have been told they have diabetes.²⁸ Residents are aware of the situation, at least as indicated by the CHA Survey. Survey respondents selected addressing chronic diseases such as heart disease

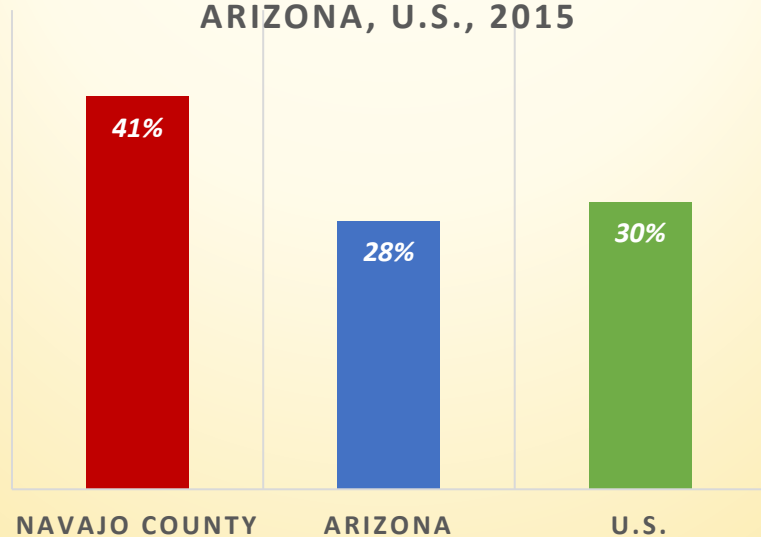


*2 in every 3 county residents are
obese or overweight*

DIABETES, NAVAJO COUNTY, ARIZONA, U.S., 2015



OBESITY, NAVAJO COUNTY, ARIZONA, U.S., 2015



and diabetes among the top five health goals for the county.

Part of prevention or mitigation of obesity and diabetes is healthy diet and exercise. Yet only a small percentage (5%) of county residents said they ate the recommended amount of fruits and vegetables (at least two fruits and three vegetables) each day. This compares unfavorably to Arizona (11%) and the US (9%). More promising are the figures for eating vegetables every day (at least once) which 78% of residents said they did. Fifty-four percent said they ate fruits daily, but this means that one in four did not have vegetables daily and two in four did not have fruit or fruit juice daily.²⁹

Diet and Exercise, Behavioral Risk Factor Survey, 2011-2016

Consumed fruit/fruit juices at least one time per day in past month	54%
Consumed vegetables at least one time per day in the past month	78%
Any physical activity or exercise in the past month	72%
Met recommended guidelines for both aerobic and strengthening physical activities	21%
Met guidelines for aerobic activity only	34%
Met guidelines for strengthening activity only	6%
Did not meet either physical activity guideline	40%

I Like to Move It

“People may know [about exercising]. They may have the knowledge. But putting it into action is a completely different scenario.”

“[M]y husband he has no control...Instead of getting two [cookies]...like with the kids [I say] ‘You get two.’ And here he comes with seven. And that’s not right! And that’s why I don’t buy that...”

Source: CHA Focus Groups

While some residents are eating their fruits and vegetables, few residents report exercising a great deal. For example, 72% of residents said they had any physical activity in the past month, as shown above. This means that 28% of Navajo County residents did not have any physical activity or exercise in the past month. Only 21% met the Health and Human Services’ *Physical Activity Guidelines for Americans*, which includes both aerobic activity such as walking and running as well as strengthening activity such as weight-lifting or yoga.³⁰ When looking at each of these different types of exercise, 55% of residents surveyed did meet the *aerobic* guidelines (21% met both and 34%

met aerobic only), but far fewer were doing the *strengthening* activity (27% were strengthening). In all, 40% did not meet either of the physical activity guidelines.³¹

In the focus groups, many participants talked about the difficulties in eating right, exercising and sticking to a regimen. One participant bought a treadmill and “swore on New Year’s Day” that he would use it regularly. Two days later, he stopped using the machine and didn’t use it again – a story familiar to the whole group. Others pointed out that healthy food is more expensive, harder to prepare, and just doesn’t taste as good as unhealthy food. “It takes time to prepare healthy foods,” said one focus group participant, noting that “fast food” or pizza is much easier and inexpensive to buy.



Importantly, participants in the focus groups talked about how hard it is to maintain healthy food and exercise for children. Many blamed technology (such as cell phones and tablets) for creating inactive and even anti-social behavior. They compared today’s

kids with themselves or acknowledged the veracity of claims made by previous generations, such as their grandparents, who “walked to school in blizzards.” They claimed that their own childhood experiences are foreign to today’s children. Additionally, parents recognized that they can encourage healthy habits but once a child goes to school, the child’s behavior can’t be monitored.

Despite these observations, residents haven’t given up in the battle to promote healthy behaviors, especially for children. In the focus groups, many had tips for healthier eating and gave kudos to organizations that address the situation. For example, one respondent said, “One good thing about Head Start is there is no candy and they have a very good diet and nutrition.” Others talked about keeping “junk food” out of their homes and limiting heavy foods. An American Indian respondent said she limits fry bread and certain other heavy foods usually served at traditional gatherings to just a few times a year. Additional comments from residents at the focus groups are shown in the panel above.

Kids These Days

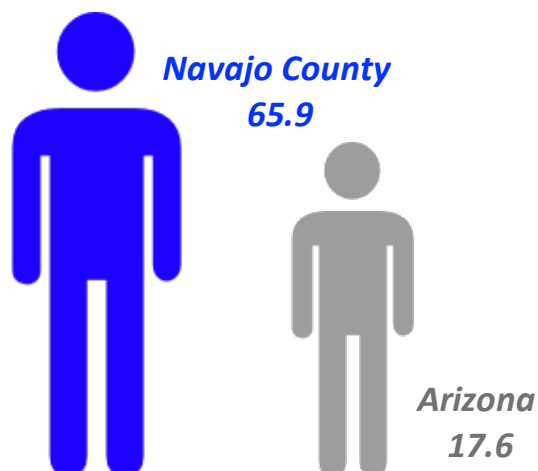
“I’m amazed at the amount of sugar in this town! Everything is throwing candy at kids...”

“My kids, they do like fruits and vegetables and things like that. But when they get money, or their friends get money, the first thing they do is go to Circle K and buy the chips...”

“Where we work, there are four-year-olds and I would say 50% of them are already overweight or obese...A lot of them eat a lot of fast foods.”

-- CHA Focus Groups

Alcohol-induced Deaths (per 100,000 residents)



Substance Abuse - Alcohol

Substance use and abuse can put a significant burden on the physical health, mental health, and cohesiveness of a community. According to death certificate records, alcohol-induced deaths in Navajo County are particularly high. Alcohol-induced deaths are those in which alcohol contributed to the death of an individual, such as a motor vehicle accident involving an impaired driver or liver disease in an alcohol user.

Too Much of a Good Thing

“Drug abuse is a generational thing here. A lot of the parents that are trying to parent, well, these people are strung out on meth and marijuana and prescription. And then the grandparents are, like, alcoholics in some cases.”

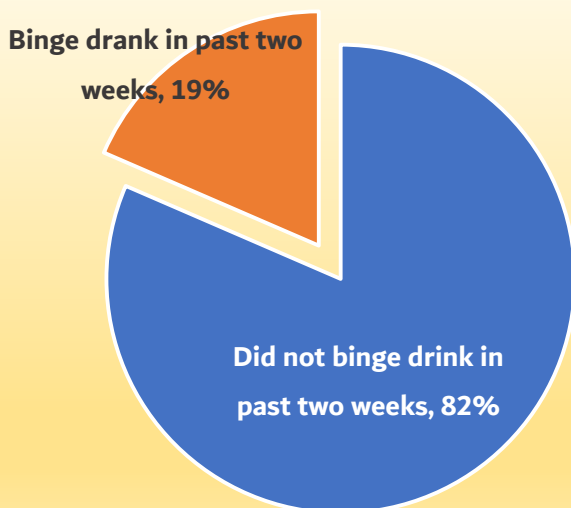
“If you read the police records, like everything in there is alcohol-related...”

-- CHA Focus Groups



In 2016, the rate of deaths related to alcohol in Navajo County (65.9) was almost four times higher than the rate for Arizona (17.6), as shown above.³² This statistic would suggest that behaviors such as binge drinking would be high for Navajo County. In fact, binge drinking – defined as having more than five drinks on one occasion in the past 30 days -- was no higher in Navajo County than in Arizona as a whole. However, when the data are separated by gender, there is a different finding. According to the BRFSS, 3% of women binge drank in the past 30 days, but 15% of men did the same.³³ Thus, the rate for men is quite high. (More on disparities by gender will be discussed later in the report.)

12th Graders Binge Drinking



Unfortunately, alcohol use and abuse are not limited to adults. In fact, evidence suggests that alcohol is an issue for Navajo County youth as well as adults. While 70% of 12th graders had not used alcohol in the past 30 days, lifetime use and access to alcohol was much more prevalent. For example, 37% of eighth graders have used alcohol at some point in their lives, as have 41% of tenth graders and 50% of twelfth graders. About one in five 12th graders (19%) had been binge drinking in the past two weeks. More than half of both 8th graders and 12th graders claimed it is easy or very easy to get alcohol, mostly from someone

Percent of Teens Who Said it is Easy to Get Alcohol

12th Graders, 66%

8th Graders, 53%

giving them money to buy it (40% of 12th graders who drank alcohol), having alcohol at a party (33%), or having a person over 21 who is not a family member buy it for them (27%). Contributing to the risks of adolescent drinking is the fact that 12% of 12th graders drove while drinking alcohol at some point, possibly contributing to the high rate of motor vehicle accident deaths.

Additionally, about one in three (32%) of 12th graders had lived with an alcoholic, which is higher than the percent for Arizona (26%).³⁴ Living with an alcoholic increases a child's likelihood of having access to alcohol, being in a car driven by someone who is impaired, and possibly other safety factors such as domestic abuse. This is a significant risk given that alcohol-impaired driving deaths were 26% of all driving deaths in 2016 in Navajo County.³⁵

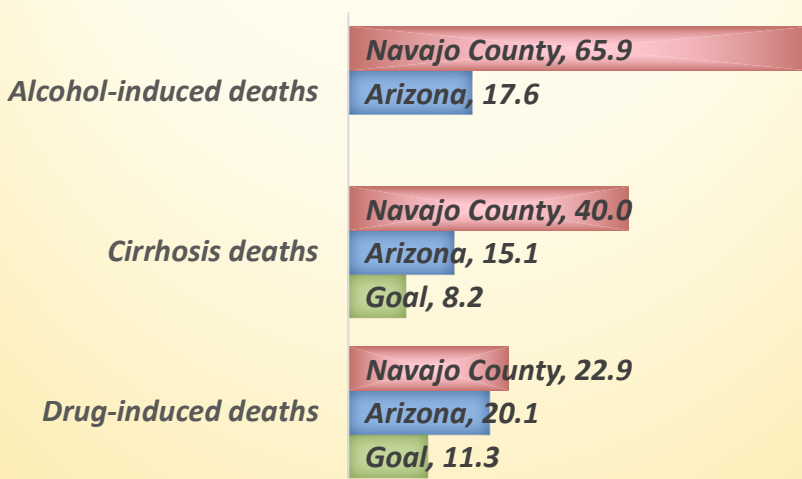
Whether or not they are aware of the statistics on drug and alcohol abuse, Navajo County residents identified substance abuse as a major issue in the county. In the CHA Survey, respondents were given a list of 21 health issues. "Substance abuse including alcohol, opioids, illegal and prescription drugs" was the most frequently chosen issue as a top health priority and

1 IN 3

12th graders has lived with an ALCOHOLIC



Alcohol and Drug Deaths Compared, 2016



goal for Navajo County. Sixty-two percent of respondents chose this issue, more than 25 percentage points higher than any other issue. In addition, reducing substance abuse was the #1 or #2 ranked goal by each of the following groupings: males, females, whites, American Indians, Hispanics, and each of the age groups from 18 and under to 70 and older. Clearly, it is seen as a high priority by many in the community.

There are **3** times more
ALCOHOL DEATHS than
DRUG DEATHS in the county

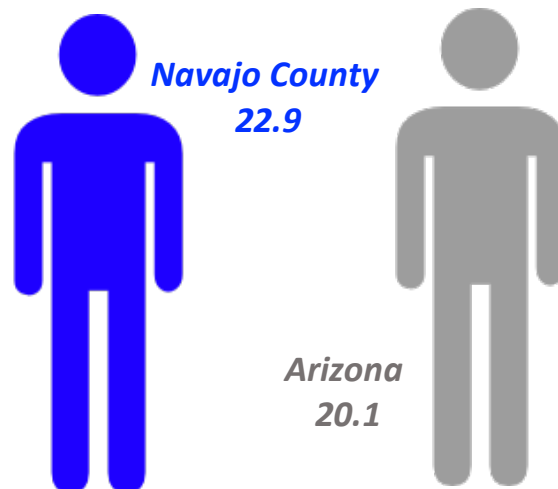


Substance Abuse - Drugs

Both drugs and alcohol can prohibit residents from reaching their full health potential, and the opioid epidemic and other drug issues have not skipped Navajo County, as will be covered later in this section. However, it is important to keep in mind that alcohol use is placing more of a burden on the county than is drug use. For example, the death rate for alcohol-induced deaths was 65.9 per 100,000 residents compared to 22.9 for drug-induced deaths. Further evidence can be seen in the chart above.³⁶

The Office of Disease Prevention and Health Promotion at the U.S. Department of Health and Human Services sets goals for states, counties, and other communities called “Healthy People 2020.”³⁷ Both Arizona and Navajo County are not meeting the goals and the county’s cirrhosis (a disease associated with alcohol use) death rate was four times higher than the goal in 2016. Navajo County was higher than Arizona when it comes to alcohol-related deaths and similar when it comes to drug-induced deaths, but the alcohol deaths were considerably higher than the drug deaths. Stated in terms of individual lives, there were 71 lives lost due to alcohol and 25 deaths due to drugs in Navajo County in 2016.³⁸

Drug-induced Deaths (per 100,000 residents)



As mentioned earlier, this is not to say that drug issues are non-existent or not important in Navajo County. The county’s rate of drug-induced deaths is comparable to Arizona’s rate as shown above. In addition, there were 200 emergency department visits for drug-related diagnoses (drug psychoses, drug dependence, nondependent abuse of drugs) and 49 inpatient admissions for drug-related conditions in one year.³⁹



For some teens, involvement with drugs appears to be well developed by the time they graduate high school. Most types of drugs are used by only a small portion of Navajo County teens, but marijuana is much more common. For example, as shown below, a small number of teens have used a prescription opioid at some point in their lives - 9% of 8th graders and 14% of 12th graders - but 25% of 8th graders and 42% of 12th graders have used marijuana. Additionally, the 12th graders indicated that marijuana is easy or very easy to get and it appears this may be true for 8th graders as well, given the percentage who have used marijuana. In fact, just as many teens agreed that it is easy to get marijuana as alcohol, despite the difference in legal status of these two substances.⁴⁰

The nationwide opioid epidemic has been spreading from urban to rural areas over the last several years and Navajo County has been affected. In 2017, there were 97 suspected opioid overdoses that did not result in death and three deaths attributed to opioids. Between 2007 and 2016 there were five to eight opioid-related deaths per year with one year having an outbreak of 14 deaths.⁴¹ It is possible that when all 2017 deaths are categorized (i.e., toxicology tests, circumstances of death, etc. have been processed), there may be more than three deaths attributed to opioids, thereby increasing the 2017 final count. Both opioid-related deaths and opioid-related hospital visits tend to be more common among males (55% of opioid-related deaths), whites (59%)

Lifetime Substance Use and Ease of Obtaining Substances Among Teens, Navajo County, AZ, 2016		
	Navajo County	Arizona
8th Graders – Ever Used		
Prescription tranquilizers	5%	5%
Prescription stimulants	3%	3%
Prescription opioids	9%	7%
Marijuana	25%	14%
12th Graders – Ever Used		
Prescription tranquilizers	10%	10%
Prescription stimulants	8%	10%
Prescription opioids	14%	14%
Marijuana	42%	42%
12th Graders – % of respondents who selected “Sort of easy” or “Very easy”		
Easy to get marijuana	56%	64%
Easy to get alcohol	53%	66%
Easy to get other drugs	20%	28%

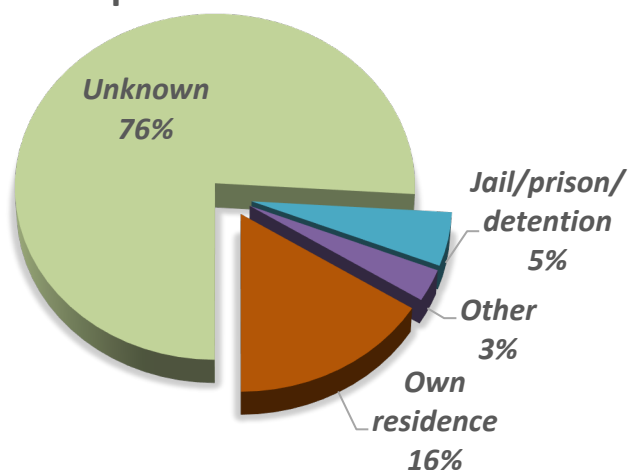
Opioid Deaths June 2017-June 2018

and individuals between 15 and 34 years old (50%).⁴² As shown in the map to the right, Navajo County is one of the counties in Arizona with the fewest number of opioid-related deaths, which is not surprising given that the population is small.⁴³ When adjusted for population, the rate of opioid deaths is still lower for the county than for the state and most other counties in Arizona. In 2016, the rate of opioid deaths in the county was 6.2 per 100,000 residents. That is nearly half of the rate for Arizona (11.4) and the United States (13.3). In 2017, the rate actually went down slightly to 4.6 per 100,000 residents.⁴⁴ Again, these findings do not indicate that there is not an opioid issue at all or that opioid use won't continue to grow in the future.



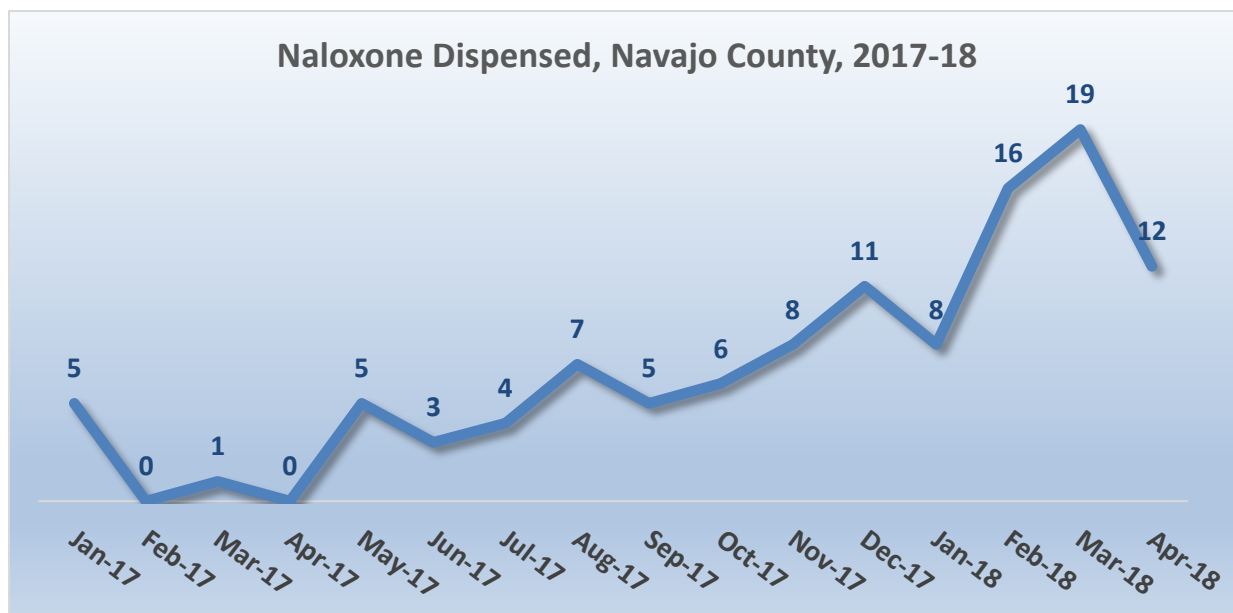
Some opioid users have accidental (or intentional) overdoses. In Navajo County, the characteristics of these individuals are similar to the characteristics of those with opioid-related deaths – more likely to be male and under the age of 44 (race/ethnicity not available). Within the county, the overdoses were more concentrated in the Show Low and Winslow/Holbrook areas, which is not surprising as these are population centers. As shown below, the overdoses occurred most often in the home, followed by jail/prison/detention, although most records did not report a location. As shown

Location of Opioid Overdose



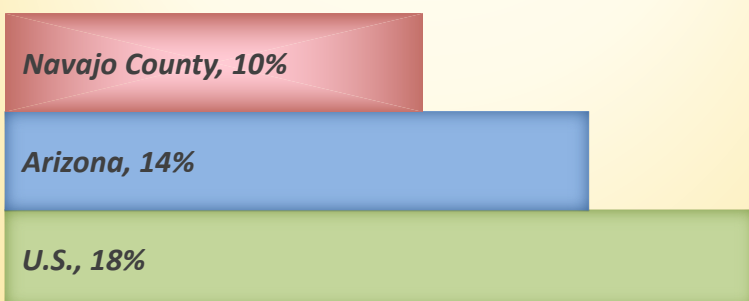
on the next page, dispensing of Naloxone (Narcan®) increased dramatically in the months between January 2017 and April 2018 as the treatment was made available to the public. Naloxone is a drug administered to counteract an opioid overdose and can be administered by non-medical professionals in Arizona.⁴⁵

During the ten years between 2007 and 2016, the number



of opioid related hospital visits in Navajo County increased more than threefold, from 123 in 2007 to 464 in 2016. It's important to note that hospital visits are not exclusively for overdoses but also include dealing with opioid dependence or other aspects of opioid use. Not surprisingly, then, the characteristics of individuals who have opioid-related hospital visits differ from those who die or overdose from opioids. Those who make hospital visits are split between males and females and includes more residents who are 55 and older (42% of opioid-related visits in 2016.) The hospital visit data, unlike the death data, do not include Indian Health Service, so the proportion of whites is high at 71%, but the impact on American Indians is unknown.⁴⁶

Current Smokers, 2015



Other Risk Factors

Tobacco use is a proven detriment to health and tobacco cessation is desirable for any community – both for the individuals who smoke and those who experience the second-hand smoke. In 2015, only 10% of Navajo County residents surveyed reported being current smokers, which compares favorably to Arizona

with 14% and the United States at 18%, as shown above. Most Navajo County residents did not smoke at all and 28% were former smokers who had stopped the habit.⁴⁷ As mentioned earlier, some teens said it was easy to get alcohol or marijuana, and an even larger proportion (67% of

2 IN 3



12th graders say it's **EASY**
To get **cigarettes**.

always wore seatbelts when riding or driving, which is lower than the rate for Arizona (84%) and the U.S. (85%).⁴⁹

12th graders claimed it is easy to get cigarettes. About a third of 8th and 10th graders had tried regular cigarettes or vaped with e-cigarettes, as shown in the table below.⁴⁸

Finally, one last health behavior bears noting – the use of seatbelts. This is particularly important in Navajo County where motor vehicle accident injuries and deaths occur at a higher rate than in some other counties. In 2015, 80% of Navajo County residents

Lifetime Tobacco/Vape Use Among Teens

	Navajo County	Arizona
8th Graders		
E-Cigarettes	30%	22%
Cigarettes	24%	15%
10th Graders		
E-Cigarettes	30%	31%
Cigarettes	30%	22%
12th Graders		
E-Cigarettes	38%	37%
Cigarettes	42%	33%
Easy or very easy to get cigarettes	67%	69%





Social and Economic Factors

Economic Situation

Like the rest of the country and the state of Arizona, Navajo County experienced an economic downturn in 2008. Unemployment rose to a high of 17% in December of 2009. Since then, the unemployment rate has steadily decreased and was at 7% by the end of 2017, as shown below. However, the

unemployment rate in Navajo County was, and continues to be, higher than it is in Arizona or in the United States.⁵⁰ Focus group respondents in Navajo County are feeling the pinch and mentioned the importance of the economy on well-being as shown in the panel above.

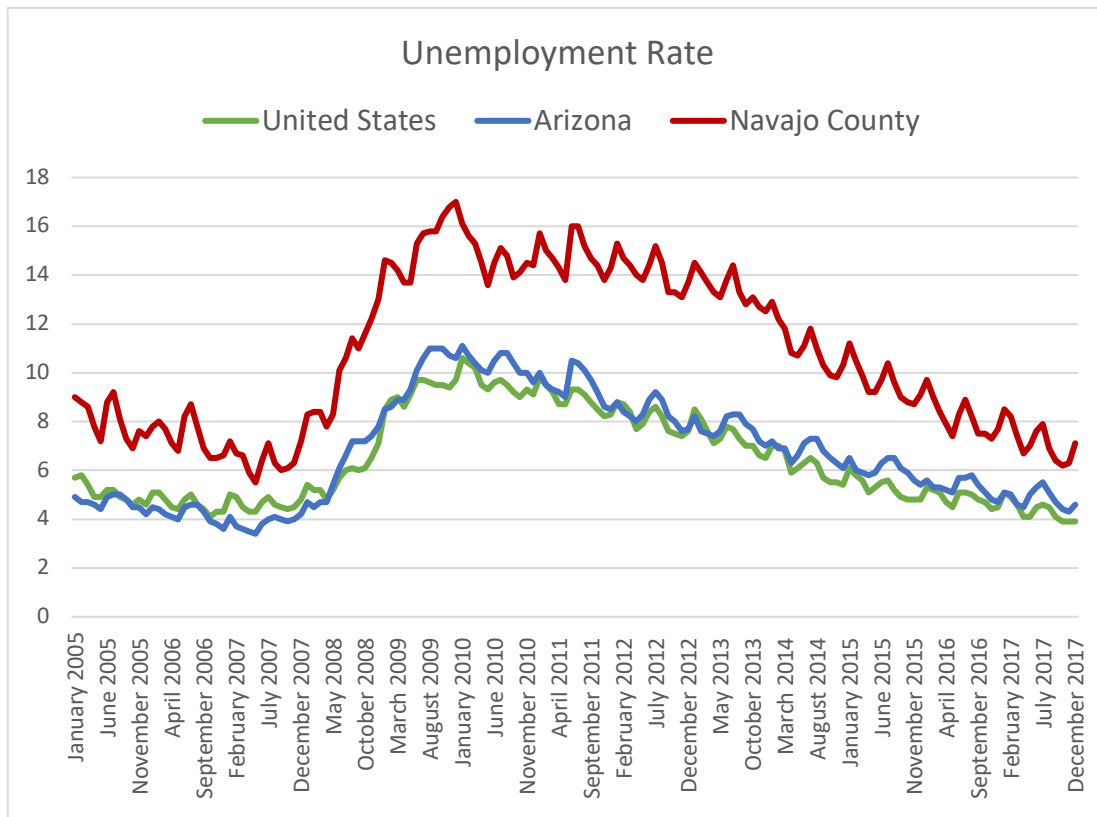
Economic conditions are such that many Navajo County residents are living at or near poverty and others are working hard to make ends meet. As shown below, almost 1 in 3 residents (30%) was living below the federal poverty level in 2016. This included 39% of children in the county and 15% of seniors. The median income for a Navajo County resident was \$36,900

It's the Economy

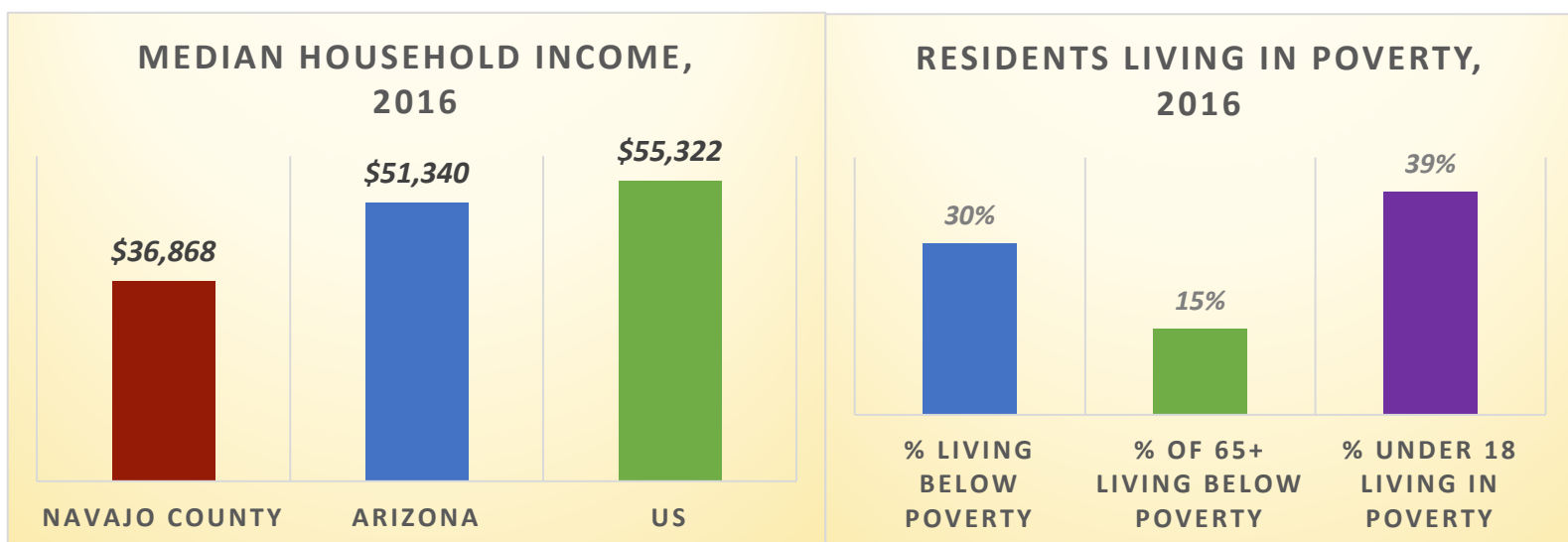
"To me, where we are at today is because we need more jobs for the people, I think, so they can work. And if you don't do that, and if you got nothing...then you have lots of problems."

-- CHA Focus Groups

which is far less than the median income in Arizona (\$51,300) and the U.S. median income of \$55,300.⁵¹



Because the cost of living in Navajo County is less than in some other parts of the state, we would expect the median household income to be somewhat lower. However, the “living wage” - the minimum amount needed for very basic expenses such as food, childcare, health insurance, housing, and transportation – for a family of four in Navajo County is \$65,395.⁵² This



amount is much more than what the median household income of \$36,868. In contrast, a living wage for a family/household of two adults is \$36,608, which is much closer to the median income. Still, in either case, this “living wage” is the bare minimum needed for survival, suggesting that many residents in the county may be struggling.

What are residents’ concerns when it comes to employment in Navajo County? The NACOG survey asked this question and the items for which respondents had “significant concern” were the following:

- Wages are too low (36%)
- Disability (27%)
- No transportation (25%)
- No jobs in my field (24%)
- Child care or elder care needed (22%)
- No training (21%)
- No access to information about jobs (13%)⁵³

These results add further evidence to the finding that the economic status of the county is an issue and it is an issue that can affect health.

Actual Median Household Income Compared to Calculated Living Wage Income, Navajo County

Median HH Income, \$36,868

Living Wage - 2 Adults, 2 Children, \$65,395

Living Wage - 2 Adults, \$36,608

Living Wage - 1 Adult, \$22,901

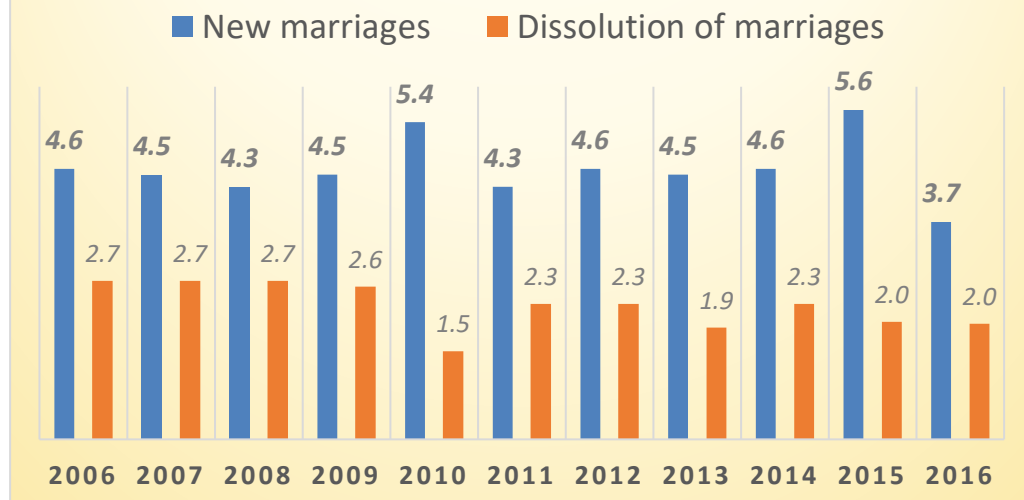


Social Support

When they talk about Navajo County, residents express that there is a sense of community around them. For example, in the CHA focus groups, several participants talked about working in the community gardens (in Winslow and Show Low) and the benefits of growing healthy foods as well as working with their neighbors and friends. There were also participants who were volunteering with local charity organizations,

such as a non-profit organization that assists pregnant women and new mothers with needed supplies and other support. In addition, there are Elks Lodges and VFW branches in several locations in the county. As the towns in Navajo County are small and some are isolated, it is not unusual that residents know each other and share friends or acquaintances in common.

MARRIAGES AND DISSOLUTION OF MARRIAGES, 2006, 2016



I Get by with a Little Help

“What makes a healthy community is various support groups so if you’re trying to do something – like lose weight – there are groups. You don’t have to do it on your own.”

“[We need] family support outreach...For families being able to get help or reach out to other entities to get counseling or different areas of health, there are so many different areas...mentally, physically.”

-- CHA Focus Groups

Navajo County enjoys social cohesion in many other ways. For example, the dissolution of marriages per 1,000 residents (divorce rate) was 2.0 in 2016, which compares favorably to Arizona’s rate of 3.4 the same year. The year before (2015) was one of the banner years for marriages with 5.6 marriages per 1,000 residents, as shown above.⁵⁴ In addition, there was not a great deal of mobility among residents of the county. As mentioned earlier, the size of Navajo County has grown little over the past decade and most growth has been from births to existing residents. Between 2010 and 2017, the size of the county grew by about 12,000 births and decreased due to 7,000 deaths for a net gain of 5,000 due to this “natural increase.” The net migration, however, was approximately 3,200 individuals who moved out of the county.⁵⁵

While there are indicators of a stable community in Navajo County, there are also some challenges to stability. First, participants in focus groups spoke of getting help in the way of support groups and family support for both physical and mental health issues, as shown in the

quotes above. Most stated that they needed more than the community support than exists now. Second, despite the relatively low divorce rate, there are still quite a few homes that are headed by a single parent. In 2016, 27% of households in Navajo County were those that had

90%

Of a child's brain develops by

Age 5

- First Things First

children under 18 in the household. Of those households with children, 43% were headed by a single parent without a spouse present (mostly women).⁵⁶ While this does not necessarily suggest instability, single parenthood offers many challenges.

Education

Head Start is for children 3 to 5 years old from families with low income and the program is available in Holbrook, Pinetop, Show Low, Snowflake, Winslow, as well as sites on

the Navajo Nation, White Mountain Apache, and Hopi lands. However, research suggests that intervention before age three is also important for development and readiness to learn. Therefore, Arizona's First Things First program helps families and communities to provide "positive, nurturing experiences" for young children under 3-years-old including preventative health, early care and education, parental support and more.⁵⁷ It is available both on and off of tribal lands in Navajo County. There are twelve elementary schools with First Things First in Navajo County outside of the Navajo Nation and four on the Navajo Nation within Navajo County for a combined enrollment of 5,235 students.⁵⁸

Navajo County had more than 18,294 students in pre-schools, public schools, and charter schools across the county in 2017. This number decreased since the highest count of 19,147 in 2011 but has increased since 2016 when there were only 17,864



Arizona	High school or less, 37%	Some college or more, 63%
Navajo County	High school or less, 48%	Some college or more, 52%

students. There are 24 elementary schools, 15 intermediate and middle schools, and 16 high schools including at least three high schools considered technical training schools.

Unfortunately, like many other schools across the state, Navajo County schools are not meeting all of the goals for elementary school education. Third grade reading proficiency (AzMERIT) was only 31% in 2017. Like Navajo County, Arizona as a whole did not fare well with a 39% third grade reading proficiency score. The similar measure for mathematics was 36% for Navajo County and 39% for Arizona.⁵⁹ This means that most students (in both the county and the state) are not meeting the proficiency guidelines for either math or reading. The reading proficiency in particular is important because third grade proficiency is a good predictor of high school graduation success.

As the reading proficiency scores would suggest, the high school graduation rate could be higher in Navajo County. As shown in the chart above, 52% of the county's residents have some college education or more, while for Arizona, the comparable number is



63%. The gap between Navajo County and Arizona residents grows with each level of education. For example, 8% of county residents do not complete ninth grade, which is comparable to the 6% in Arizona as a whole. At the high school level, about 81% complete high school, which is somewhat lower than the rate for Arizona of 86%. The college graduation rate is 15%, which is much lower than the Arizona rate of 27%.⁶⁰

There are limited possibilities for advanced education located in Navajo County, so it is not surprising that the population is less likely to have a college degree than others in the state. Of course, with the growing opportunities for completing college and even graduate degrees

Early Education

- *First Things First
(0 to 3-year olds)*
- *Head Start
(3 to 5-year olds)*



Primary Education (Public and Charter)

- *24 elementary schools*
- *8 middle and intermediate schools*
- *24 high schools*

Universities and Colleges

- *Northland Pioneer College*
- *Northern Arizona University*

online from institutions around the world, the disadvantages of being a rural county may be reduced in the future when it comes to education.

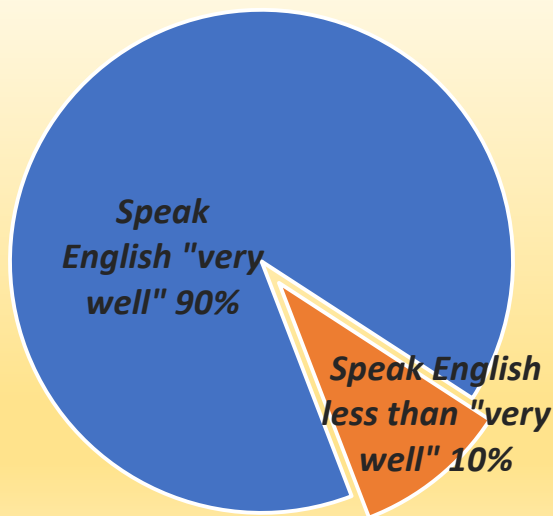
The secondary educational opportunities for residents who want to study locally are the following:

- Northland Pioneer College (NPC) has campuses in, Navajo County in Holbrook, Show Low, Snowflake, and Winslow. Additionally, it has centers in Kayenta, Keams Canyon, Whiteriver on tribal land, and two others that are nearby in Springerville and St. Johns. NPC offers associate degrees, some of which can be used as stepping stones to complete a bachelor's degree with one of the three state universities or at other participating schools, such as Prescott College. A high school equivalency diploma (GED) can also be obtained at NPC.
- Northern Arizona University has a campus in Show Low which offers a degree in elementary education through a combination of online and in-person classes. Online-

only classes and related degrees are available for a number of subjects from business administration to sociology to health sciences to hotel and restaurant management. The main campus at Flagstaff is also accessible within one hour's drive for residents in Winslow but is considerably further for residents in other parts of the county, such as Kayenta, Whiteriver, or Show Low.

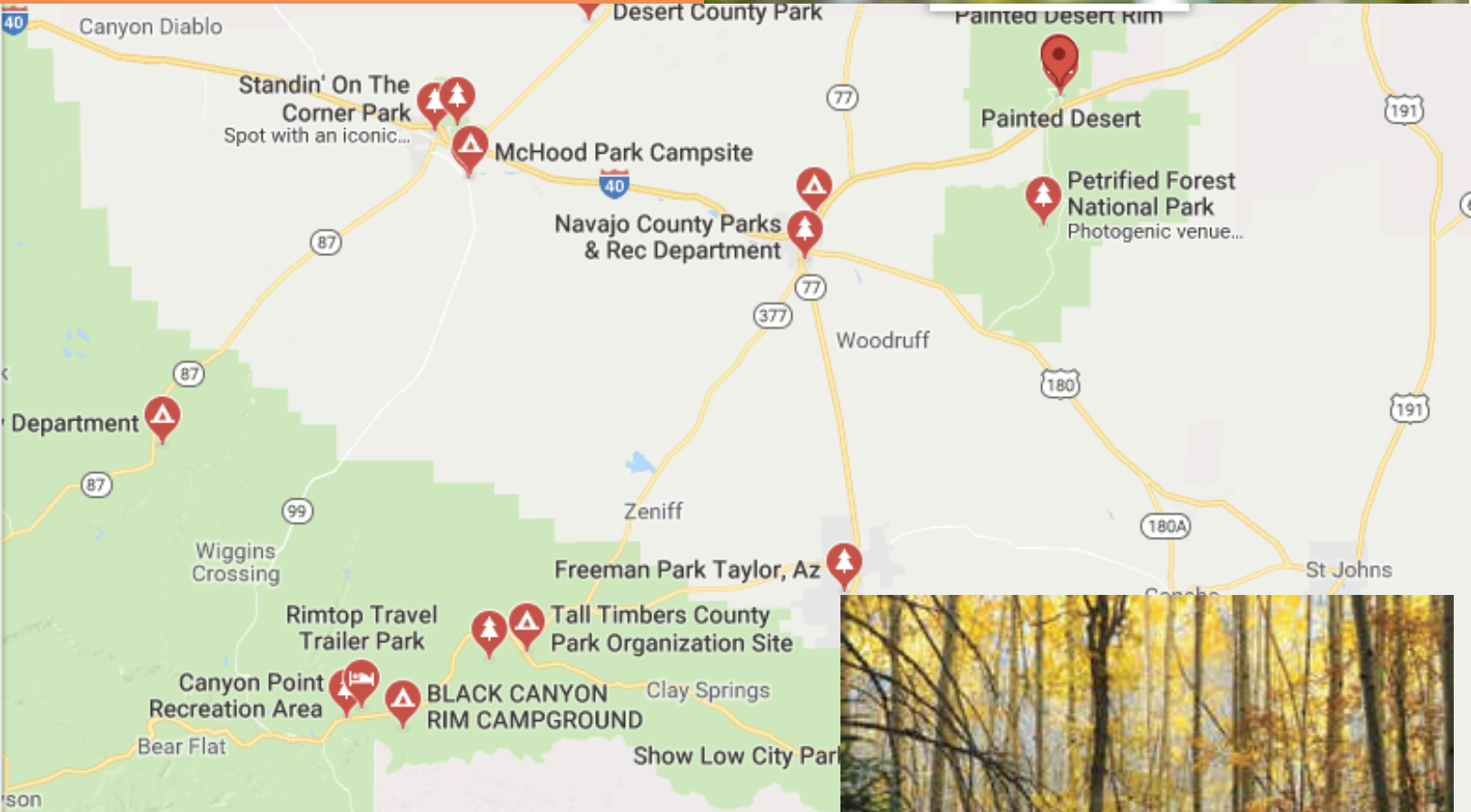
- Northern Arizona Vocational Institute of Technology (NAVIT) offers high school credit and/or community college credit in Snowflake.

ENGLISH PROFICIENCY



Language

Navajo County has rich diversity in cultures and this is reflected in the languages that residents speak. Ninety percent of the population speaks English only or speaks English “very well” and many speak a second language in addition to English (39% of all residents.) As shown above, one in ten can speak English “less than very well.” For this set of residents, of course, managing shopping, using services, healthcare and insurance is likely a challenge, or an interpreter needs to be in attendance. Among those who speak other languages, 16% speak Spanish, 4% Asian or European language and the majority (80%) speak “other languages”, likely Navajo, Hopi, and/or Apache. The U.S. Census estimates that there are over 2,000 households (6% of all households) in Navajo County that are “linguistically isolated. A linguistically isolated household is defined as a household in which no person over 13 can speak English very well.”⁶¹



Physical Environment

Parks and Recreation/Walkability

In some areas, Navajo County has park and forest access where residents can be outdoors, recreate, and get exercise, as shown in the map above. In addition, there are hiking/biking/cross-country skiing trails in the county. For example, there is an Arizona White Mountain Trail System (TRACKS) that starts near Vernon in Apache County to the east, and continues through Show Low, and then ends in Pinedale to the west. Winslow has the First Street Pathway Park which enhances the “walkability” of the town and connects parks and historic sites around the town. As

mentioned earlier, Navajo County is also home to parts or all of Navajo National Monument, Petrified Forest National Park, Homolovi State Park, and Fool Hollow Lake Recreation Area State Park. There were over 840,000 visitors to those four parks in 2017.⁶²



Let the Children Play

“My kids love to be outside. ...they want to dig in the dirt.”

“For me, as a parent, we try to put my kids in everything, you know, I have three kids that are in the Little League that play baseball and softball. My daughter did soccer and my other one did tumbling. And we try and do everything.”

-- CHA Focus Groups



When it comes to a specific measure of accessibility to recreational and exercise opportunities, however, Navajo County ranked 12th among the 15 Arizona counties. Navajo County had only 57% of its residents living near a location for physical activity, such as a park or recreational facility (e.g., YMCAs, gyms, community centers, dance studios and pools). Gila (95%) and Maricopa Counties (93%) were ranked the highest. La Paz (28%) and Apache (23%) were the lowest.⁶³

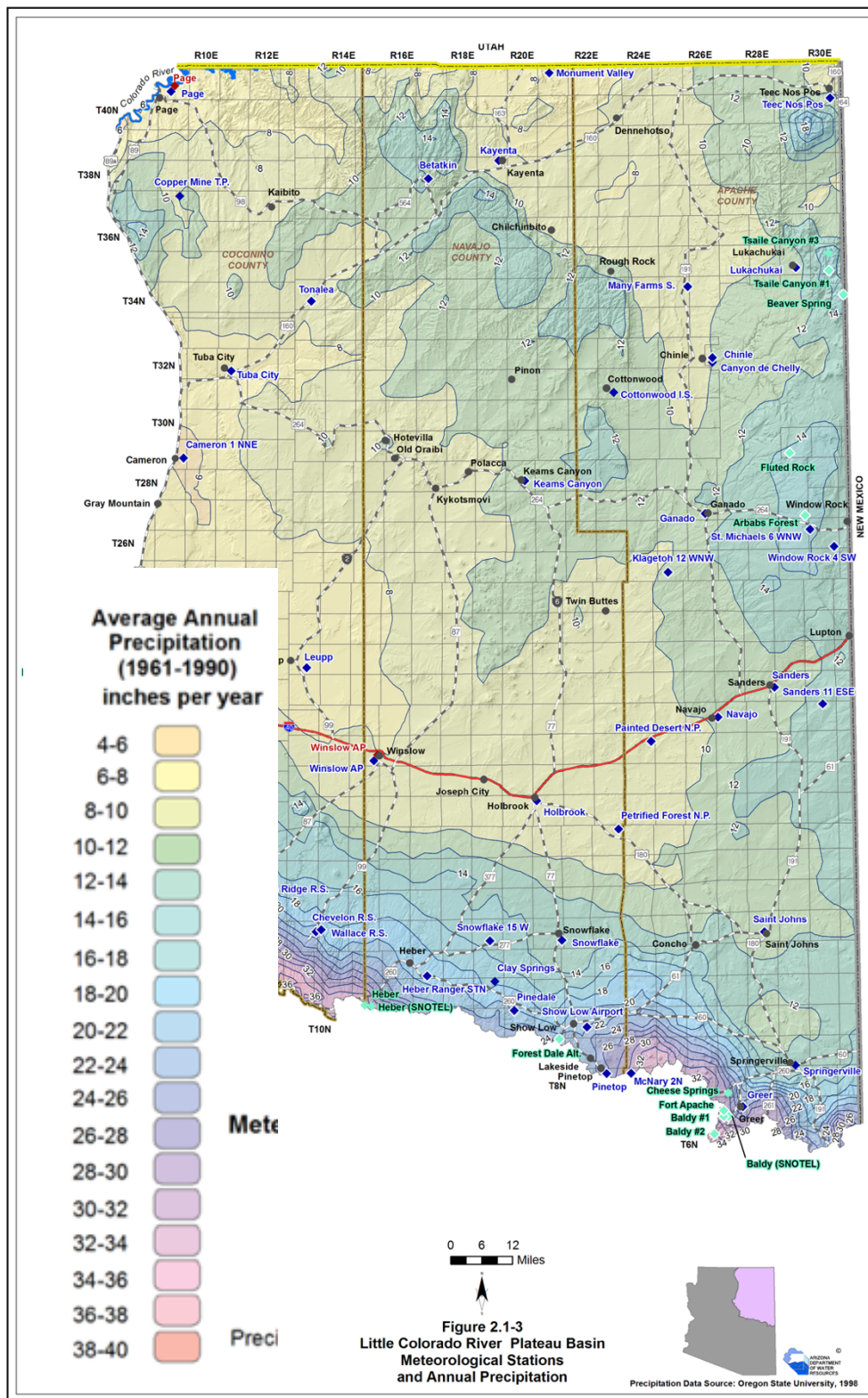


Climate

The climate in Navajo County is pleasant with highs in the mid-70s in the summer and lows in the 30s in the winter, with snow in the mountainous areas. Like the rest of Arizona, Navajo County has been experiencing “a long-term warming trend,” according to the Arizona Department of Water Resources (ADWR) and Climate Assessment for the Southwest (CLIMAS) at the

University of Arizona. A CLIMAS report shows that the temperature has been increasing over past decades while precipitation is decreasing.⁶⁴ Changes in weather have contributed to wildfires, drought, and of course, any climate change can affect farming, ranching, and recreation in the area. A farmer interviewed by CLIMAS researchers summed it up as follows, “Everything we do is based on climate.” A rancher said, “I stay in tune to what’s happening daily, what’s happening weekly...because everything we do is weather dependent.”⁶⁵

A key factor for avoiding drought is snow water equivalent (SWE). Snow is an important water source and the SWE is determined by the density of snow – “light powdery snow yields less water than dense wet snow,” according the Department of Water Resources. As the temperatures rise, the SWE levels at Mount Baldy, near the border between Apache and Navajo County, are becoming lower.⁶⁶ The map to the right shows the areas with the most and least precipitation in Navajo County and the rest of the Little Colorado River Plateau Basin.



Issues Related to Transportation, Navajo County Residents, NACOG Survey, 2016-18

Cost to own & operate, 35%

Cost of services, 32%

Limited options in my community, 28%

Distance traveled to get a ride, 20%

Lack of awareness, knowledge of services, 19%

Limited services for my specialized needs, 18%



Transportation

Navajo County has one public bus system, the White Mountain Connection, that connects Pinetop-Lakeside, Show Low, Snowflake, Taylor, Navajo County Government offices and the Taylor and Snowflake campuses of Northland Pioneer College. The bus follows one route and makes three northbound and three southbound runs per day starting at 6:30 am and ending at 6:30 pm. Each trip costs from \$1 to \$5 depending on the destination or \$8 for an all-day pass.

White Mountain

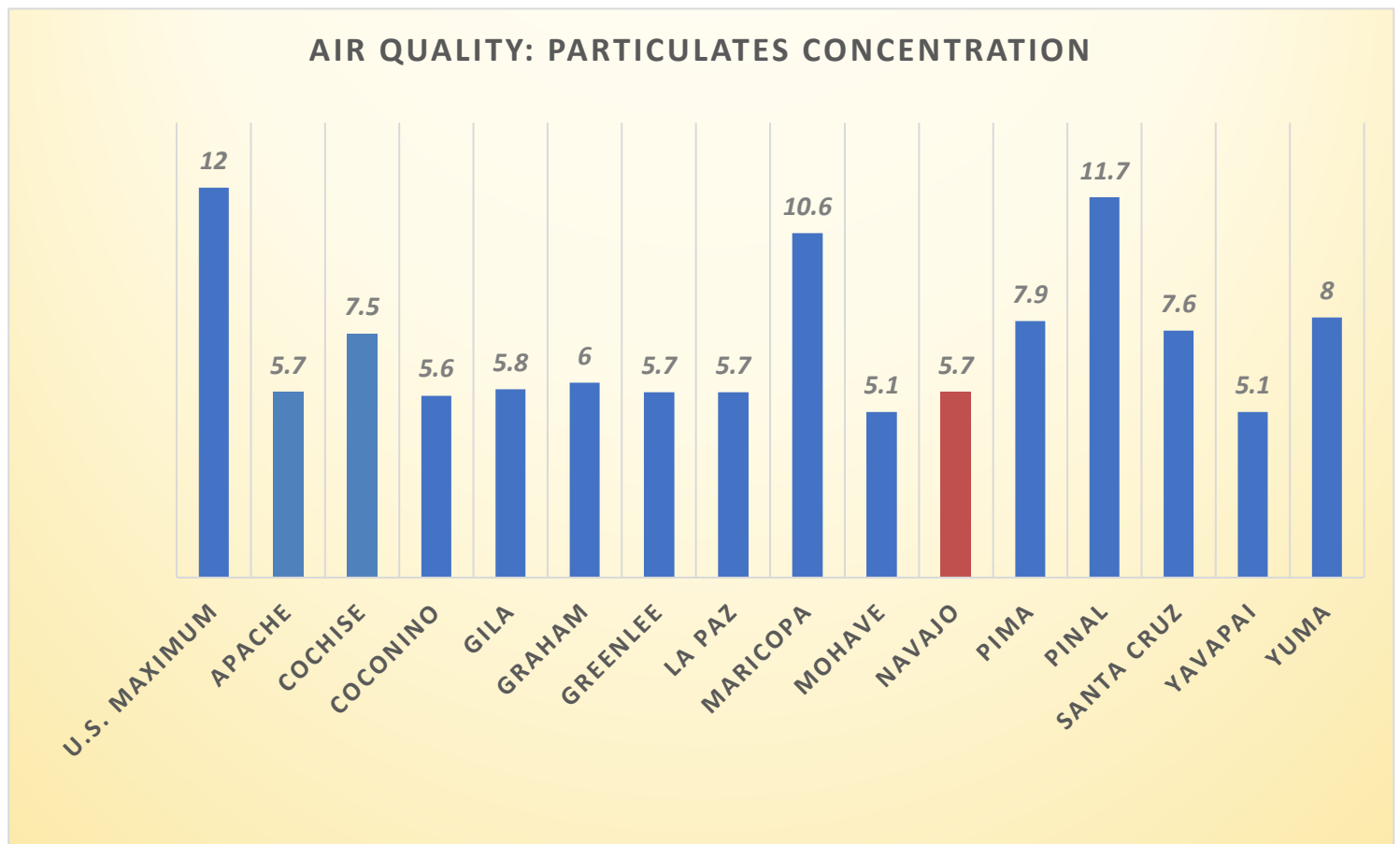


CONNECTION

In the Navajo County CHA focus groups, the topic of transportation to and from medical appointments and other engagements arose several times. For the most part, residents said they rely on personal transportation – either driving their own vehicles or getting rides from friends and family in their vehicles. One participant mentioned that he used the bus system, but most participants said that the bus was slow and was limited in its range, as described above. One participant said that AHCCCS will pay for transportation to/from medical appointments for those who are covered by this plan. Another informed the group that both

individuals with disabilities and individuals without disabilities can use the Americans with Disabilities Act (ADA) car service, which costs \$5-10. Very few of the participants were aware of this resource and a few thought they might use it in the future.

The Northern Arizona Council of Governments (NACOG) Survey showed that residents had many issues related to transportation. The cost to own and operate a vehicle and the cost of services was selected as the top barriers to transportation by survey respondents. There were also some respondents who were not aware of all of the public transportation services, which was also mentioned by participants in the focus groups. In addition, almost 1 in 5 of the NACOG Survey respondents (18%) said that getting transportation for their special medical, physical, or mental health needs was a barrier for them.⁶⁷ There was a similar finding in the CHA Survey - 1 in 10 (9%) of respondents blamed missing medical appointments due to a lack of transportation.



Water and Air Quality

Navajo County residents enjoy the fresh air that rural and forested areas have to offer. They often mention this as an advantage over urban areas in the state and elsewhere. The statistics back up their conclusions, as shown in the chart above. Particulate matter – used to measure air pollution – was particularly low in Navajo County compared to other areas, as shown in the chart above. Among the 15 Arizona counties, Navajo County ranked in the top tier when it comes to providing fresh air. At a particulate matter concentration of 5.7, it compared favorably with Pinal at 11.7 and Maricopa at 10.6.⁶⁸

Public health and environmental health experts measure the cleanliness of water by looking at drinking water violations. To do this, they examine reports for all community water systems in the county to see if there has been a violation in the past year. A violation means that the water system has not met the relevant standards for that system and needs to be corrected. All such violations are immediately corrected, and the public are notified if there is any danger to health. According to the Environmental Protection Agency (EPA), a “health-based drinking water violation is given to a community water system for going over a maximum containment or maximum residual disinfectant level, or for not meeting correct treatment

Arizona counties with drinking water violations:

Apache, Cochise, Coconino, Gila, La Paz, Maricopa, Mohave, Pima, Pinal, Santa Cruz, Yavapai, Yuma and Navajo

Arizona counties with NO drinking water violations:

Graham
Greenlee



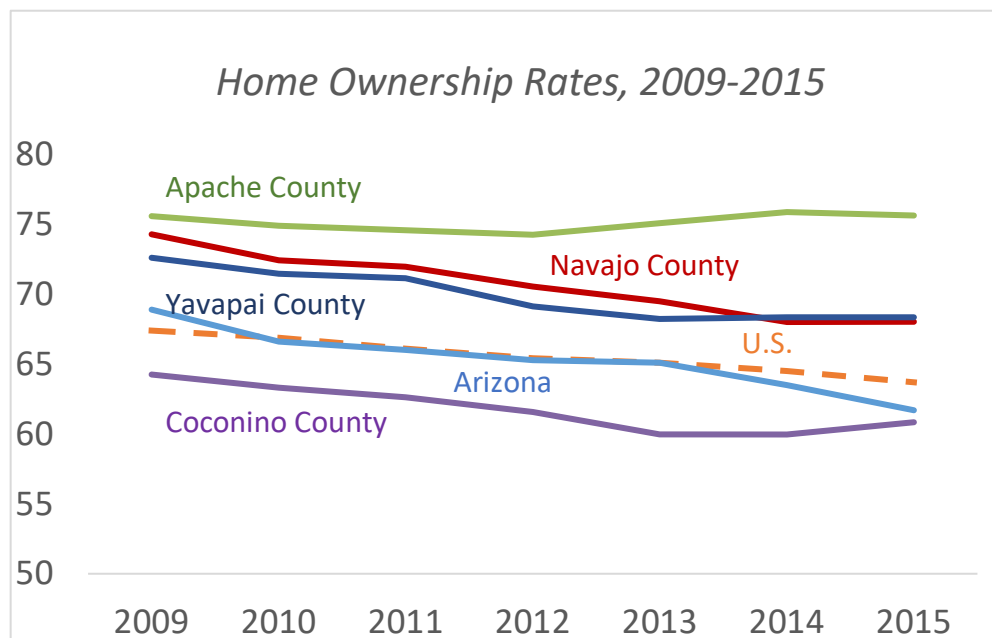


technique requirements, or if the public was failed to be educated on a violation.” As shown above, Navajo County was among the 13 counties in Arizona that had a violation in 2016. Only Graham and Greenlee did not have a single violation.⁶⁹

Housing and Homelessness

Navajo County had a decrease in home ownership after the economic crisis of 2008, but despite this setback, a majority of its residents were homeowners in 2018, ten years after the crisis. According to the U.S. Census, the home ownership rate in 2016 in Navajo County was 70%, which is higher than the rates for both the U.S. (64%) and Arizona (63%). As shown in the chart below, home ownership decreased more dramatically in Navajo County and other counties in the region compared to the U.S. (dashed line in chart). It also suggests that the home ownership rate may be either maintaining or increasing in Navajo County, leveling out after the downturn. Apache County was the Northern Arizona county which had the highest rate of home ownership and maintained that rate through the downturn.⁷⁰

Perhaps the higher home ownership rate in Navajo County is related to the cost of housing units in the county. In Apache County, where ownership was highest, the median value of a housing unit was approximately \$78,000. In both Yavapai and Coconino, it was over \$200,000. Navajo County had a median value at \$106,100, making it more



expensive than Apache County, but much more affordable for potential buyers than homes in Yavapai or Coconino.⁷¹

Unfortunately, some Navajo County homeowners have challenges to their housing situations. About 1 in 4 households (26%) had a severe housing problem such as incomplete kitchen or plumbing facilities, overcrowding, or a major cost burden (mortgage or rent in relation to income). In Arizona as a whole, this rate was lower at 20%.⁷² It is not surprising then that in the NACOG survey of residents in Northern Arizona, Navajo County respondents selected “Housing” as one of their top unmet needs from a list of 24 possible needs.⁷³ When presented with housing issues and barriers to having housing, 39% of respondents said that poor credit was in their way, 35% said utilities were too expensive and 31% said rent was too high as shown below.⁷⁴

For a few residents, the cost of housing, joblessness, mental illness, or other circumstances have caused them to be homeless. Homeless individuals and families tend to be transient and thus it is difficult to get an accurate count of the number of homeless in any given community. However, every year in June, the Arizona Department of Housing does a point-in-time count of homeless individuals and families as volunteers spread out and talk to all of the homeless persons they can find. This is the most reliable system available for counting homeless individuals in Arizona and its counties.



Barriers to Housing (NACOG Survey)

- Poor credit – 39%
- Utilities too high – 35%
- Rent too high – 31%
- Home in disrepair – 25%
- Difficulty qualifying for mortgage – 23%
- Access to information – 17%

81%

Of the homeless in the county have issues with

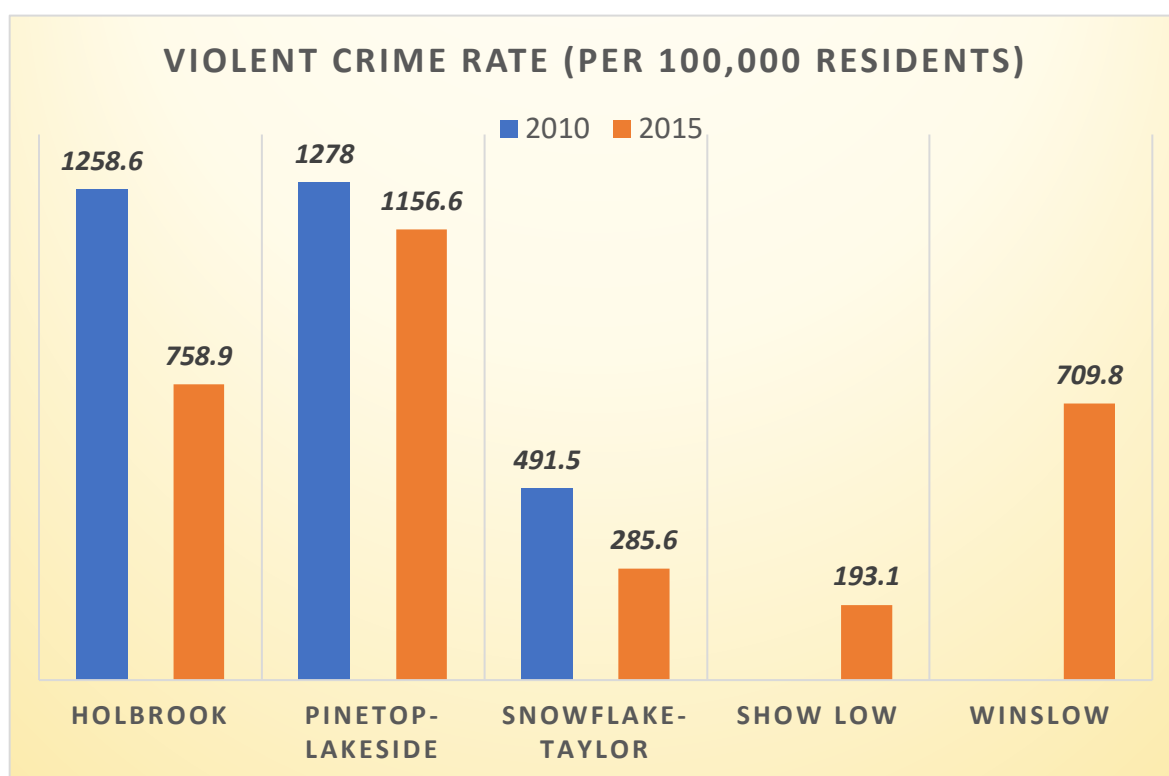
SUBSTANCE ABUSE

In Navajo County in June 2017, there were 34 homeless individuals in 26 families or groups. Of the 34 homeless individuals, three were veterans, four were survivors of domestic abuse and five were children. Most were found in Winslow (50%), with the remaining individuals in Show Low (19%), and Pinetop-Lakeside (19%). Although demographic information was missing for many of the individuals, they tended to be much more likely to be male (53%) than female (15%), and somewhat more likely to be American Indian (41%)

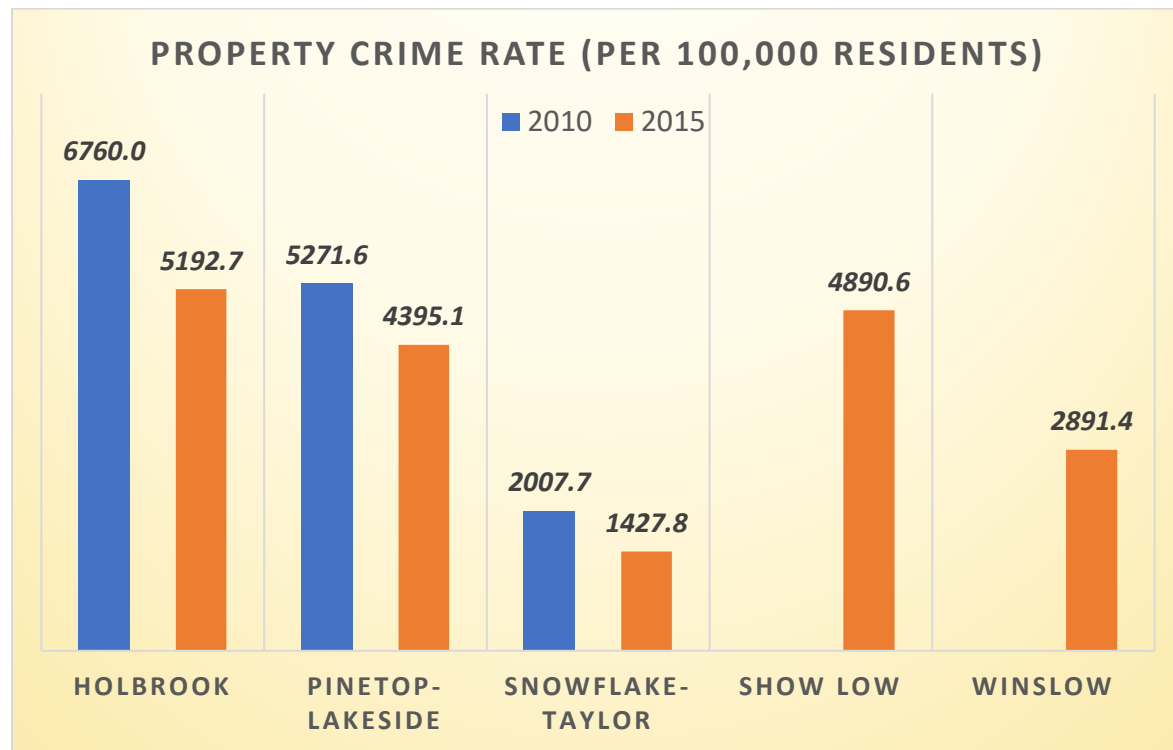
than white (27%). Eighty-one percent of the families/groups had at least one member with a substance abuse issue. There were also individuals with serious mental illnesses, disabilities, traumatic brain injury and post-traumatic stress disorder and other chronic conditions.⁷⁵

Safety and Crime

One of the many benefits of living in a small town can be a low crime rate, which is true for some towns in Navajo County. (Crime statistics are reported by the area handled by a city or town police department.) Over the past five years, the cities and towns in the county have experienced a decrease in both violent crime and property crime, as shown in the charts below.



For example, Holbrook had a violent crime rate of 1,258.6 per 100,000 residents in 2010. In 2015, that rate decreased by 40% to 758.9. Snowflake-Taylor had a similar decrease (42%) and Pinetop-Lakeside had a much smaller drop of 9%.⁷⁶



The rates and types of crime differ by city in Navajo County. In 2015, Pinetop-Lakeside had the highest violent crime rate per 100,000 residents and Holbrook has the highest property crime rate and second highest violent crime rate. Show Low had the lowest violent crime rate in 2015 at 193.1 per 100,000 residents. Snowflake-Taylor had the lowest property crime rate at 1,427.8. Please note that although the rates can be in the hundreds or thousands, the actual number of crimes for each city are quite low, for example there was one murder in Holbrook in 2015 and none in Show Low or Pinetop-Lakeside. Total violent crime for Holbrook was 38 cases in 2015.

Selected Crime Rates per 100,000 Population, Navajo County Cities, 2015					
	Holbrook	Pinetop-Lakeside	Snowflake-Taylor	Show Low	Winslow
Population	5,007	4,323	9,805	10,878	9,580
Violent crime	758.9	1,156.6	285.6	193.1	709.8
Murder and non-negligent manslaughter	20.0	0.0	0.0	0.0	0.0

Robbery	39.9	46.3	0.0	18.4	31.3
Aggravated assault	679.0	1,040.9	285.6	156.3	657.6
Property crime	5,192.7	4,395.1	1,427.8	4,890.6	2,891.4
Burglary	958.7	439.5	428.4	459.6	344.5
Larceny-theft	3,834.6	3,839.9	948.5	4,311.5	2,421.7
Motor vehicle theft	399.4	115.7	51.0	119.5	125.3



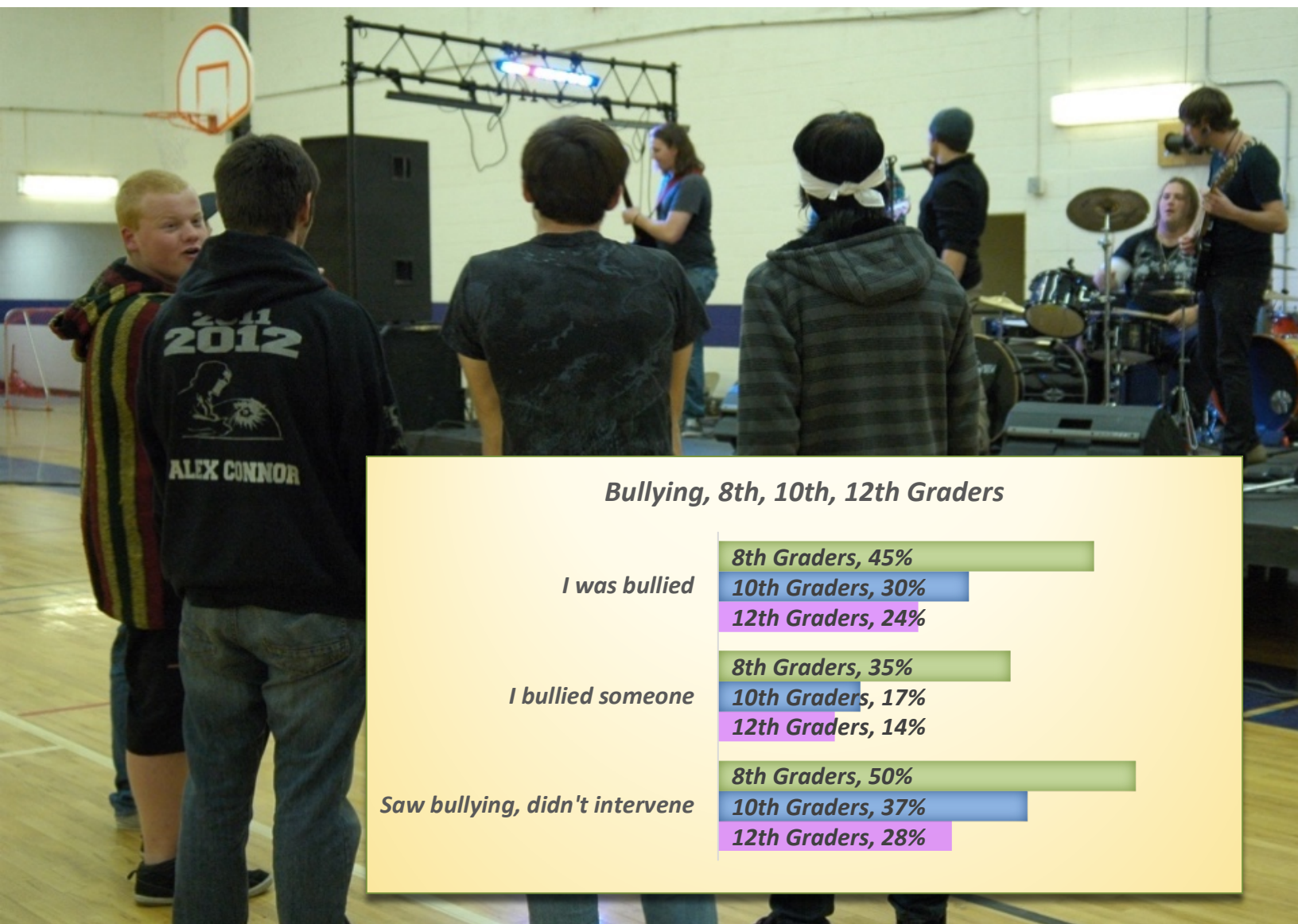
There are several issues to consider when examining crime data. Crimes are counted by where they occur and include residents and non-residents alike. Therefore, towns that have more visitors will likely have higher crime rate per resident because the rate is calculated by dividing the number of crimes (local and visiting victims) by the resident population of the town. In addition, crime counts are collected by local police departments and reported to the Federal Bureau of Investigations (FBI). Therefore, there are many additional violent and property crimes that occur, but do not appear in these figures because they are never reported to authorities in local or national law enforcement.

Overall, we can estimate the number of crimes across the county as a whole by adding the city figures with additional non-city area figures for a total Navajo County estimate. In 2016, property crimes consisted of 409 burglaries, 214 larceny-thefts, and 36 motor vehicle thefts. In the same year, there were 73 violent crimes. These included 6 murders and non-negligent manslaughter, 8 sexual assaults, 4 robberies and 55 aggravated assaults.⁷⁷

For teens, safety at school and elsewhere is inconsistent. Seventy percent or more

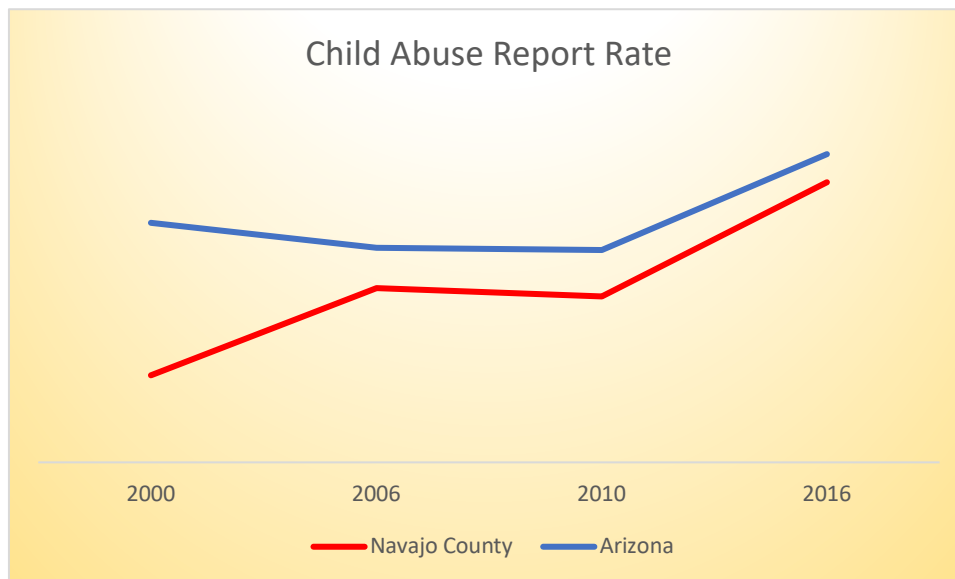
of eighth, tenth, and twelfth graders surveyed said they felt safe at school. Yet whether it is for appearances or for necessary protection, about one in ten said they brought a weapon with them to school in the past 30 days. A few of the armed students may be modeling perceived gang behavior as 14% of 12th graders agreed that being in a gang is “cool” and 11% agreed that they are now, or have been, in a gang.⁷⁸

As shown in the chart below, it appears that both bullying and being bullied decreases with age and grade advancement. While 45% of eighth graders said they were bullied in the past year, about half that amount of 12th graders (24%) said the same happened to them. Intervening when someone was being bullied reduced with grade advancement as well, but it is unclear whether the respondents just saw less bullying as they got older, or they saw just as much bullying but intervened less. For some students, the bullying involved a weapon - 11-12% of



students indicated they were “threatened with a weapon, such as a gun, knife, or club” at school.⁷⁹

Sometimes, a child’s risk of violence occurs at home rather than at school or other locations. While it is difficult to determine which reported crimes are domestic violence or how many domestic crimes occur, there are several sources that provide some data on child abuse and domestic violence. The Arizona Department of Child Safety states that there were 734 incidents of child abuse reported in 2017. This is more than twice the number reported in 17



years earlier in 2000 – 297 reports. In the most recent report, 75% of child abuse reports were for neglect, 20% were for physical abuse, 4% were for sexual abuse, and 1% were for emotional abuse.⁸⁰ In Navajo County, 448 individuals (213 adults and 235

children) received community services for domestic violence. This is 14,181 bed nights with an average stay of around 4 months. The service providers in Navajo County are Alice’s Place, Todhenasshai Committee Against Family Abuse, and White Mountain Safe House.⁸¹

Food Environment

As discussed earlier in this report, healthy eating is a goal for residents. Also as mentioned earlier, Navajo County residents recognize the difficulties in obtaining healthy foods. In fact, when given a list of 24 different unmet needs in the NACOG Survey, “Food/nutrition” emerged as the topic about which the most respondents (40%) expressed a significant concern.⁸² It is difficult for residents to get the proper food and nutrition if the food environment is not conducive to healthy eating. Therefore, an important determinant of health is the availability and access to food, in general, and to healthy foods, in particular – a concept called “food security.” According to the U.S. Department of Agriculture, “Food security means access by all people at all times to enough food for an active, healthy life.”⁸³ When there is little access and availability of food/healthy food, it is called “food insecurity.”



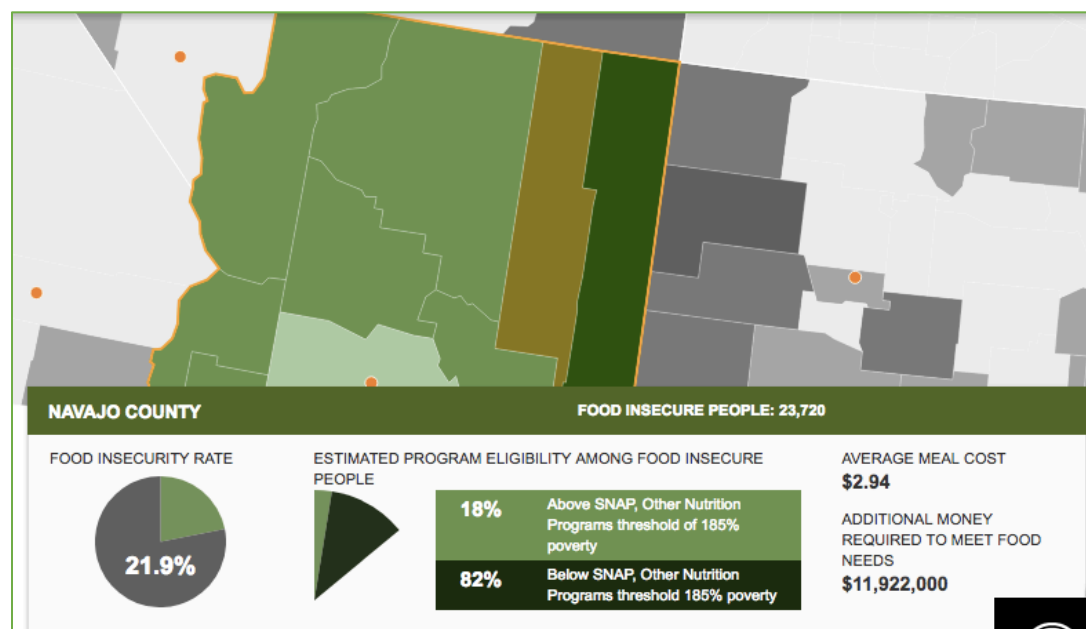
I Like Candy

"If you've never had a hungry child in your classrooms or anything, they can't concentrate...Because parents are gone, there's no controls and they...eat potato chips all day and processed, like, cupcakes and stuff like that – they're hungry but they're putting on weight because they're not moving or anything."

- CHA Focus Groups

Unfortunately, among Arizona counties, Navajo County has one of the highest food insecurity rates. Twenty-two percent of residents or approximately 25,000 individuals were food insecure in 2016, a rate that puts Navajo County in the second highest food insecurity tier (20-24% as shown in map below).⁸⁴ This is almost twice as much as the rate for the U.S. of 12% food insecure. For comparison, Pima, Pinal, and Maricopa counties each have 15% of residents who are food insecure. Part of the issue is access to a grocery store - the U.S. Department of Agriculture (USDA) reports that 39% of Navajo County's population had low access to a grocery store in 2015 – this is up from 33% in 2010. A part of what might explain this is that the number of grocery stores per 1,000 population decreased by 23% between 2009 and 2014. In addition, 8% or 2,700 of the county's households have no car and low access to a store making it very difficult to buy healthy foods.⁸⁵

A promising mitigating factor to the unavailability of



healthy foods is the creation of several community gardens. For example, the White Mountain Community Garden in Show Low was founded in June 2010 and continues to produce fresh fruits and vegetables in season.⁸⁶ Winslow has the Winslow Sweetland Community Garden which opened in 2017.⁸⁷ The stated mission of *Ndée Bikiyaa*, The Peoples' Farm in Whiteriver, AZ "is to restore personal and cultural health among the White Mountain Apache through agriculture."⁸⁸ As this mission would suggest, the product of community gardens is often more than just producing and eating fruits and vegetables. Both the gardening itself and the social aspects of maintaining a garden with others in the community have shown to be beneficial to health.⁸⁹ The Navajo Nation, various schools, and other locations are hosting similar projects.⁹⁰





Clinical Care/Health Systems

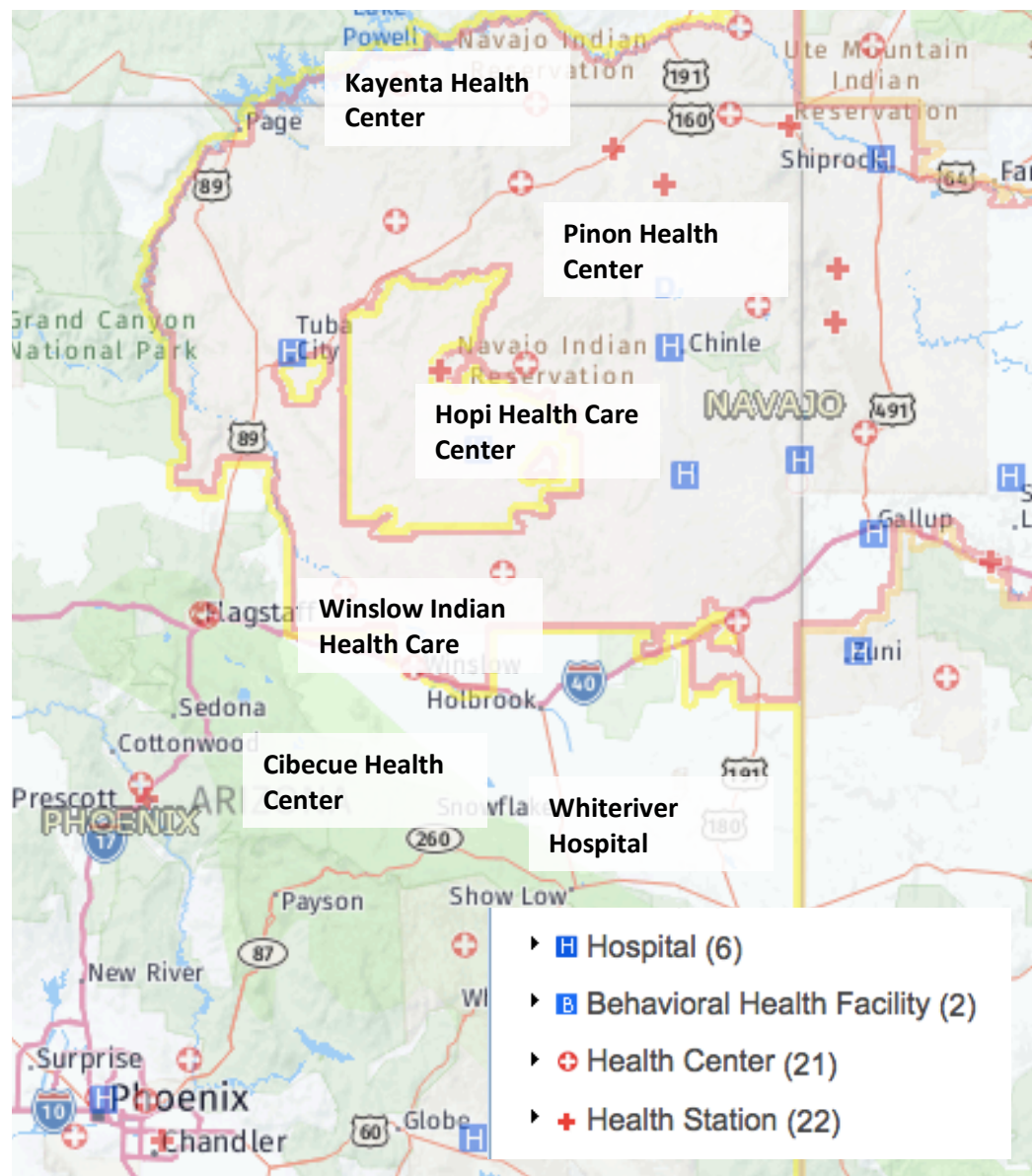
Healthcare and related issues are a top concern for residents of Navajo County. As mentioned earlier, when respondents in the NACOG Survey were given a list of 24 topics, 38% of Navajo County respondents said that healthcare was a “significant need.” This topic was chosen second most often after food and nutrition, which was a significant need for 40% of respondents.⁹¹ This chapter will cover the community’s healthcare resources, specific types of care needed, access to healthcare, and barriers to healthcare.

Healthcare Availability

There are a several large- and small-sized healthcare facilities in Navajo County. Some of these facilities are federally funded and are associated with the Indian Health Services (IHS) as shown in the map below. From north to south, they are:

- Kayenta Health Center
- Pinon Health Center
- Hopi Health Care Center (located in Keams Canyon)
- Winslow Indian Health Care Center
- Cibecue Health Center
- Whiteriver Hospital⁹²

Additionally, the Tuba City Regional Health Care Corporation hospital is not far from the Navajo County border and is on the Navajo Nation in Coconino County. There is also a location in Chinle in Apache County, close to the border with Navajo County. IHS facilities are specifically for American Indians in the region, but the facilities do not turn away other members of the community.



As shown in the map on the previous page, there are also facilities available for the general public. There are three hospitals, including Summit Healthcare in Snowflake, Little Colorado

Medical Center in Winslow, and ChangePoint Integrated Care in Lakeside. ChangePoint Integrated Care is for behavioral health issues only and includes both inpatient and outpatient services. The Summit Healthcare hospital in Snowflake has a cancer center, diagnostic imaging, an emergency department, laboratory, occupational therapy, and other services. Little Colorado Medical Center in Winslow does not offer as many services, but has an emergency department, primary care, imaging, and other services. Both Summit Healthcare and North County Health Centers have clinics in several towns. These clinics offer primary care, dental and other services at some locations. The lists of locations and services are in the two tables below.

Major Providers in Navajo County - Locations					
	Summit Healthcare	ChangePoint Integrated Health	North County Healthcare	Little Colorado Medical Center	StatClinix Urgent Care
Holbrook	Clinic	Clinic	Clinic		
Lakeside	Clinic	Hospital			Clinic
Overgaard	Clinic				
Show Low	Hospital, Clinic	Clinic	Clinic		Clinic
Snowflake	Clinic				
Taylor	Clinic				
Winslow		Clinic	Clinic	Hospital	

Healthcare Resources (Assets) Available					
	Summit Healthcare	ChangePoint Integrated Health	North County Healthcare	Little Colorado Medical Center	StatClinix Urgent Care
Behavioral health crisis services	No	Yes (phone)	No	No	
Behavioral health	No	Yes	Yes	No	
Laboratory	Yes	Yes	Yes	Yes	
Emergency department	Yes	No	No	Yes	
Family practice/primary care	Yes	Yes	Yes	Yes	Yes
Imaging	Yes	No	No	Yes	
Surgery	Yes	No	No	Yes	
OB/GYN	Yes	No	Yes	Yes	
Cardiology/ cardiopulmonary	Yes	No	No	No	
Dietary/nutritional services	Yes	Yes		Yes	

Dental	No	No	Yes	No	
Pediatrics	Yes	Yes	Yes	No	
Pharmacy	Yes	Yes	Yes	No	
Occupational/physical therapy	Yes	No	Yes	No	
Telemedicine	Yes	Yes	Yes	No	
Urgent care	Yes	No	No	No	Yes

Residents may also seek care at the following providers:

- Show Low Veteran's Affairs Health Care Clinic in Show Low
- Flagstaff Medical Center and Payson Regional Hospital are regional hospitals that are outside of Navajo County but close enough that residents will sometimes seek care there
- Some residents in the southern part of the county seek care at facilities in the greater Phoenix area, especially Scottsdale, which is closest to Navajo County
- Healthy Steps (lactation and other services)
- Winslow Guidance Associates (WGA), Alcoholics Anonymous, Pregnancy Center, Alice's Place offer behavioral health care and Family Advocacy Center is for children with adverse traumatic experiences
- Private practice offices of individual providers in Navajo County





Additionally, Navajo County Public Health Services District has locations in Overgaard, Holbrook, Pinetop, Show Low, Snowflake, and Winslow. The NCPHSD has programs for HIV/AIDS, sexually transmitted diseases, injury prevention, nutrition services, oral health, prescription drug overdose prevention, teen health, tobacco prevention and other services. The District also provides prenatal, nursing, nutrition and other services to women and children enrolled in the federally funded Women, Infants, and Children (WIC) program.

Healthcare Providers

According to the Arizona Medical Board and Arizona Regulatory Board of Physicians Assistants, there are 122 providers licensed in Navajo County. Ninety-seven of the providers are medical doctors (MDs) and the remaining 25 are physician assistants, as shown in the table below.⁹³ Although the title of “physician assistant” sounds like a person who would help or assist doctors, physician assistants (PAs) are actually health professionals who are highly trained and skilled in healthcare in their own right. The American Association of Physician Assistants describes PAs as professionals “who diagnose illness, develop and manage treatment plans, prescribe medications, and often serve as a patient’s principal healthcare provider.”⁹⁴ Please note that table below may or may not include all of the providers in the IHS facilities because they do not need to register with the state licensing agencies.

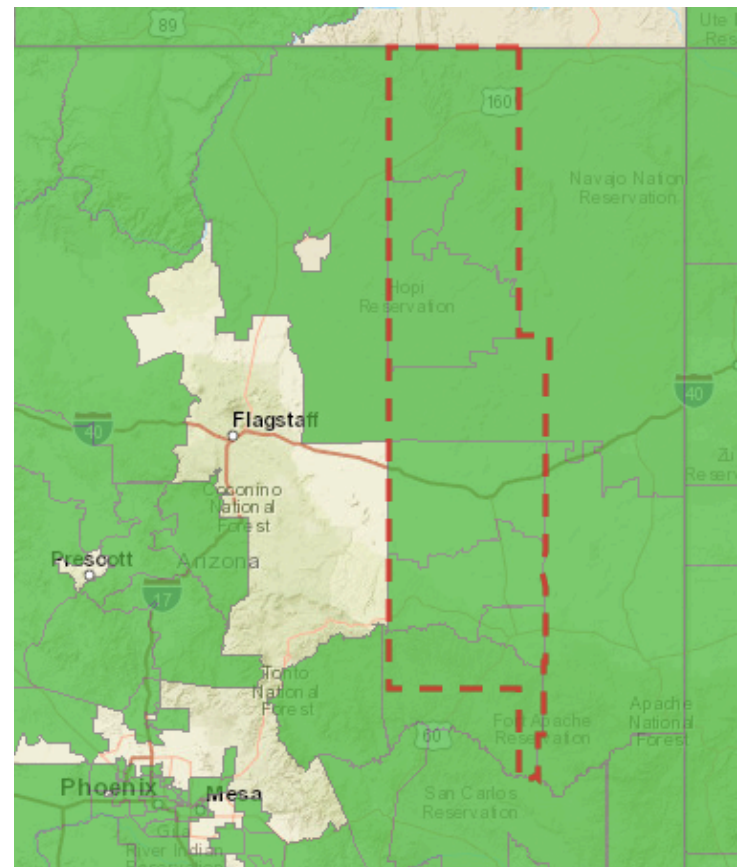
Despite the number of facilities and providers, Navajo County is considered to be a health

Providers Registered with the Arizona Medical Board for Towns in Navajo County			
	Medical Doctors	Physician Assistants	Total
Total - All Cities	97	25	122
Holbrook	1	1	2
Kayenta	1	0	1
Pine Top	1	1	2
Show Low	47	18	65
Snowflake	5	0	5
Whiteriver	16	1	17
Winslow	26	4	30
May not include all providers working at Indian Health Service Facilities, as they are not required to register with the Board.			

professional shortage area by both experts and residents. The Health Resources and Services Administration (HRSA) classifies Navajo County and much of the surrounding area as a primary care professional shortage area, as shown in the map below. Only the area surrounding Flagstaff and Sedona are adequately equipped with providers. (Green areas are those that

have a shortage of healthcare providers.) Navajo County is also classified as a shortage area for both mental health and dental providers and the shortage area for mental health providers extends to all of the Northeastern Arizona counties.⁹⁵

The overall assessment of clinical resources is weak for most parts of Navajo County and the tribal areas that overlap the county. The Northern Arizona University Center for Health Equity Research examined a number of factors affecting health in Navajo County and other Northern Arizona counties and tribal nations. In their 2017 report entitled *Advanced Wellbeing in Northern Arizona: A Regional Health Equity*



Assessment, they compared municipalities that are in or overlapping Navajo County to find that only Show Low and Hopi offer an adequate number of primary care providers per capita – 1 provider for every 227 residents – at least as compared to Arizona as a whole (1 provider for every 296 residents). Yet, both the Hopi and the White Mountain Apache Tribe are lacking any general hospitals, skilled nursing facilities, and have poor access to transportation, as shown below.⁹⁶ The Snowflake/Heber area has somewhat better resources and transportation, but the ratio of providers to the population could be strengthened.

Primary Care Area Resource Profile, Navajo County and Tribal Areas, 2015							
Primary Care Area	Population	Pop-PCP Ratio*	General Hospital **	Hospital Beds per 1,000 pop	Skilled Nursing Facilities	Home Health Agencies	Trans Score ***
Arizona	6,835,518	296:1	Yes	2.0	146	225	109
Navajo Nation	100,000	1,600:1	Yes	0.3	1	4	153
Hopi Tribe	12,000	290:1	No	0	0	0	140
Snowflake/Heber	18,000	1,000:1	Yes	0	0	0	106
Show Low	30,300	227:1	Yes	2.9	2	1	102
White Mountain Apache Tribe	13,000	823:1	No	0	0	0	171
*Population to primary care provider (PCP) ratio. **Short stay, acute care, non-federal hospital. ***Transportation access, higher scores indicate greater need for transportation.							

I Need a Doctor

“Doctors are busy, really busy, so time goes by quick for them. But the wives do not like it up here. Which means if the doctor has a three-year contract, he isn’t going to stay past three years, because his wife is so unhappy.”

“A big problem with doctors here is they don’t take new patients. Like, I see a doctor in Flagstaff because...no one [in Winslow] was taking new patients....[Doctor’s name] wouldn’t see me, even though I tried to argue that he was my mom’s doctor and when she died, that left an opening...And he said ‘No.’”

-- CHA Focus Groups

Residents, too, feel that there is a shortage of providers – primary care and specialists. In both the CHA focus groups and the CHA survey, as well as the Hopi Summit Report, residents frequently mentioned the need for providers to come to the area and to stay in the area. Thus, it is not just the number of providers at any given time, but the consistency of providers over time, that are concerns to residents.

This often drives residents to seek care at the emergency department or even in Flagstaff or the Phoenix area.

Importantly, some participants said that they just don’t seek care at all because both out-of-pocket and insurance are too expensive. The quotes from focus group participants above highlight the difficulties for residents when providers leave the area.

The same pattern is even more pronounced for specialists. There are few medical specialists and when one leaves, it can be months before they are replaced. Even physical therapy clinics can be unavailable. One participant said she scheduled her physical therapy several months in advance of her surgery so that when she needed the physical therapy for rehabilitation after surgery, there would be appointments available. For cancer therapy such as radiation, the wait can be months. The exception is the Veteran’s Affairs Health Care Clinic which reportedly will shuttle their qualified patients to Phoenix or Tucson for specialty care if it can’t be provided locally.





Residents feel that the needs for different kinds of providers are, for the most part, not being met. As shown in the chart below, most respondents in the CHA survey (71%) said that the need for primary care providers is being partially met and 14% said it was not met at all.

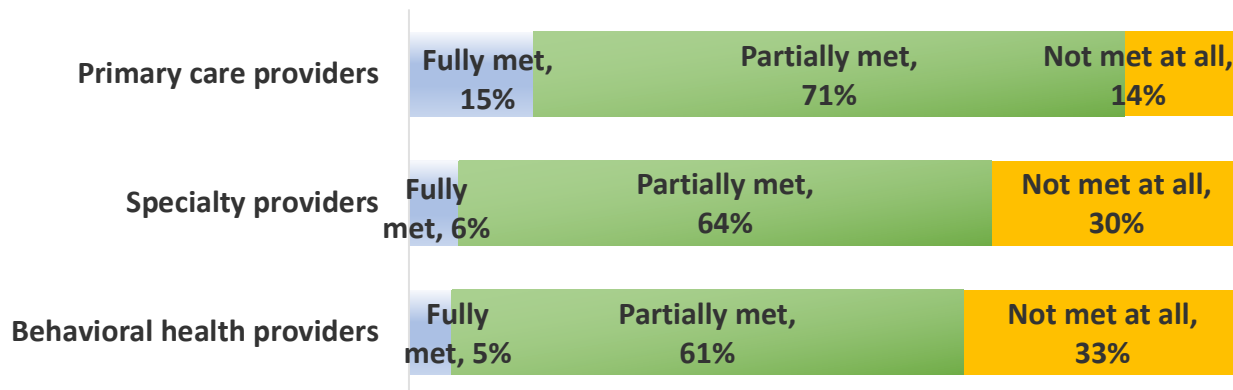
Only 15% of respondents thought that the need for primary care providers was fully met and this dropped to 6% and 5% for specialty and behavioral health providers. On the other end of the spectrum, 30% said that the need for specialty providers is not met at all and 33% said the need for behavioral health providers was not met at all.

Like the participants in focus groups, survey respondents made comments on what they see as the problem.

“Doctors are constantly leaving, and appointments can take months to get,” said one survey respondent. Another respondent explained:

“I’ve specifically had a hard time with the lack of urgent care facilities available in our area. When we’ve had urgent things that are not emergencies happen on the weekend or late at night...we’ve had to go to the emergency room...”

CHA Survey: Need for Types of Providers



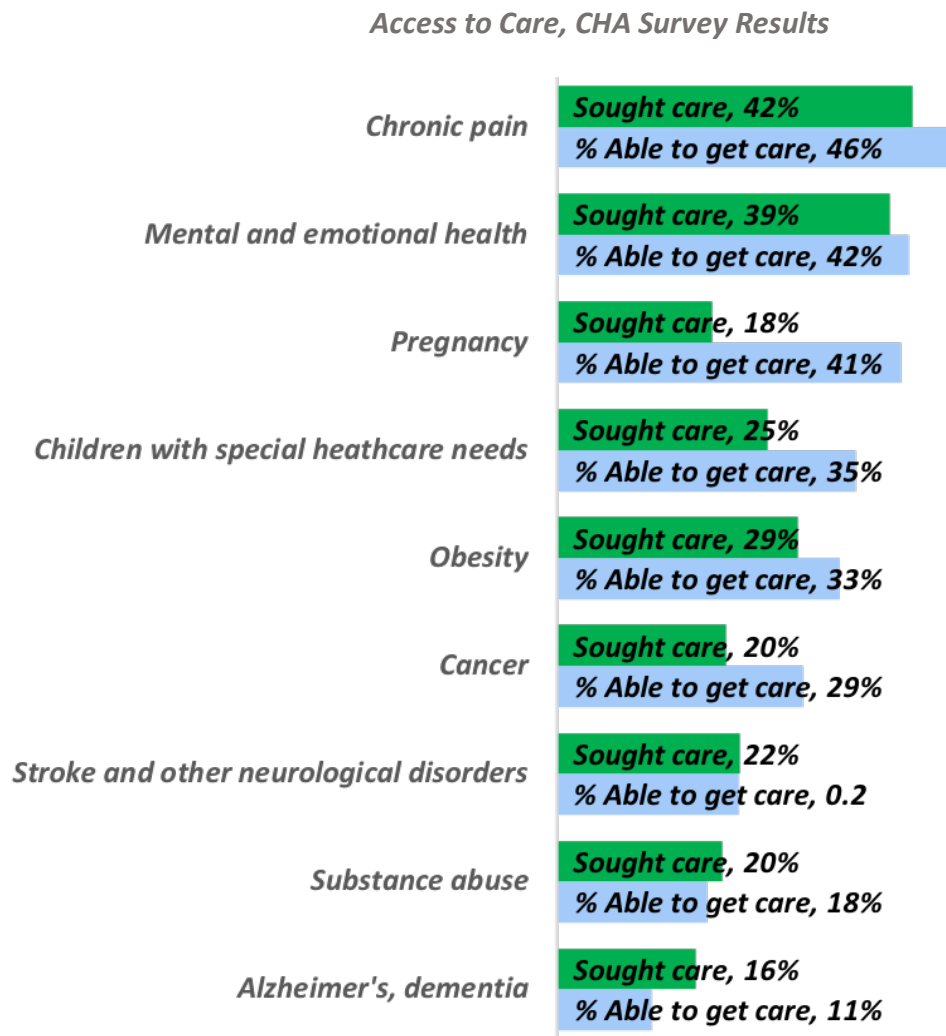
The lack of specialists contributes to what residents see as a lack of care for various specific healthcare needs. Results of the CHA Survey showed that following conditions and groups were rated the lowest in terms of having needs met in the community:

- Substance (drugs or alcohol abuse) and addictions

- Services for children with special health care needs
- Mental or emotional health services (counseling, psychiatry, etc.)
- Alternative medicine, such as acupuncture, naturopathic, etc.
- Assisted living, nursing home care
- Home health care
- Kidney dialysis
- Individuals without healthcare insurance
- Individuals with disabilities
- Low income residents

In addition, residents are not able to get care for certain conditions when they seek it, as shown in the table to the right. For example, 18% of the respondents said they sought care for

pregnancy in the past year. Of the respondents who sought care, only 41% were able to get care. This is particularly troubling because prenatal care is associated with positive birth outcomes and thus, is very important for healthy infants. Mental/emotional health was also identified as an unmet need. Thirty-nine percent of respondents sought care for mental or emotional health but only 42% of those who sought it were able to get the care.



Mental/Emotional Care

As mentioned in the previous section, Navajo County is officially a behavioral health provider shortage area and residents confirmed this finding in the CHA Survey. In the CHA focus groups, residents lamented the lack of resources for getting counseling and assistance with mental health issues. For example, the first quote in the panel to the right was from a resident who tried to schedule a counseling appointment and, in the end, never did get the appointment, despite her persistence. The other quotes are typical of resident concerns about mental health care. For young people, the schools do not help for the most part. One focus group participant said of school counselors in his high school, “[They} were more financial advisors than health advisors – like mental health. So, if you had – like, if you were depressed or something – it wasn’t really that wise to go to them.”

Summertime Sadness

“I tried to make an appointment too and there were several times they tried to reschedule me. And, you know, I’m like, hypothetically, what if I’m, I’m suicidal! You know -- hello?”

“There’s a couple of counseling centers here, but, I tried to go once, and I made too much money. And I just threw a tantrum in the office! I really did, ‘cause didn’t have enough money to go hire a counselor in Flagstaff and I thought, ‘Well I’ll just go here.’ But I couldn’t.”

“We need more mental health, substance abuse education, assistance, providers and facilities to accommodate our needs to end the cycle and create independence and self-sufficiency.”

-- CHA Focus Groups

% OF POPULATION WITH NO HEALTH INSURANCE

United States, 12%

Arizona, 14%

Navajo County, Arizona, 17%

It should also be noted that there is a considerable connection between substance abuse and mental health. According to the National Institute on Drug Abuse, “Multiple national population surveys have found that about half of those who experience a mental illness during their lives will also experience a substance use disorder and vice versa.”⁹⁷ Thus, although we have discussed them separately in this report, these two issues and related needs are inextricably linked.



1 in 6 Navajo County

residents does not have health insurance



Health Insurance

Health insurance is essential to a family's health as the cost of out-of-pocket care can be prohibitive, especially if a household member is in a serious accident or has a chronic condition. In Navajo County, one in six (17%) of residents does not have health insurance. Perhaps because of the unemployment rate or perhaps for other reasons, the percent of those without health insurance is higher in Navajo County than it is in Arizona or the U.S., as shown above. In Navajo County, this means that there are more than 18,000 residents without insurance, about 1,000 of whom are children under the age of 6-years-old.⁹⁸

Managing healthcare and balancing a household budget is challenging without insurance. Individuals without health insurance were identified by residents taking the CHA Survey as the group most in need in the community. Thirty-three percent of respondents said this group's needs were "not met at all," 55% said "partially met," and only 12% thought that the needs of individuals

Bills, Bills, Bills

"Just the cost of healthcare today -- and you know it's going to rise. How many people could actually afford good healthcare that even allows you to go do preventable health versus just going when you are absolutely sick? There's no resources for that."

"A holistic approach -- not just going to the doctor when you need to but having services available for prevention. It would be wonderful if there were a clinic here that was open on a sliding scale."

-- CHA Focus Groups

without insurance were “fully met.” One respondent in the focus groups said that as a self-employed person, she would have to pay \$1,500 per month to insure her family and she can’t afford that, “I cannot afford to see a doctor. I will die before I end up going to a doctor.”

The participants claimed that only those who work for the prison or the hospital or have retirement insurance can actually afford insurance. And, of course, there are working families which have an income that is too high to qualify for AHCCCS, but not high enough that they can spend money on insurance, said respondents in the focus groups. Some feel they can avoid the doctor by using prevention methods, as this participant explained:

“We do more home remedies and just try to do good hygiene and vitamins and eat good and you know the best that we can without having to take medicine or go see a doctor.”

In the focus groups, residents talked about ways they’ve had to maneuver in the system when they do need care but are not covered by insurance. As shown in the orange panel below, one participant described defying the medical recommendation in order to save money. Sadly, this type of scenario is not unusual and as mentioned earlier, some choose to neither purchase health insurance nor seek care, unless the situation is critical. When this happens, they seek care

Hard Knock Life

“I broke my wrist and the doctor at North Country -- I didn’t have Medicare yet – sent me to Flagstaff to get MRI on it. So, I went there, and they said, ‘That’ll be \$1,500 that you have to pay to get the MRI.’ So, I said, ‘Forget the MRI. Forget the \$10,000 surgery with the pin.’ And I just had them put a cast on it. But my doctor [in Winslow], he wasn’t happy about it, but what was I gonna do?

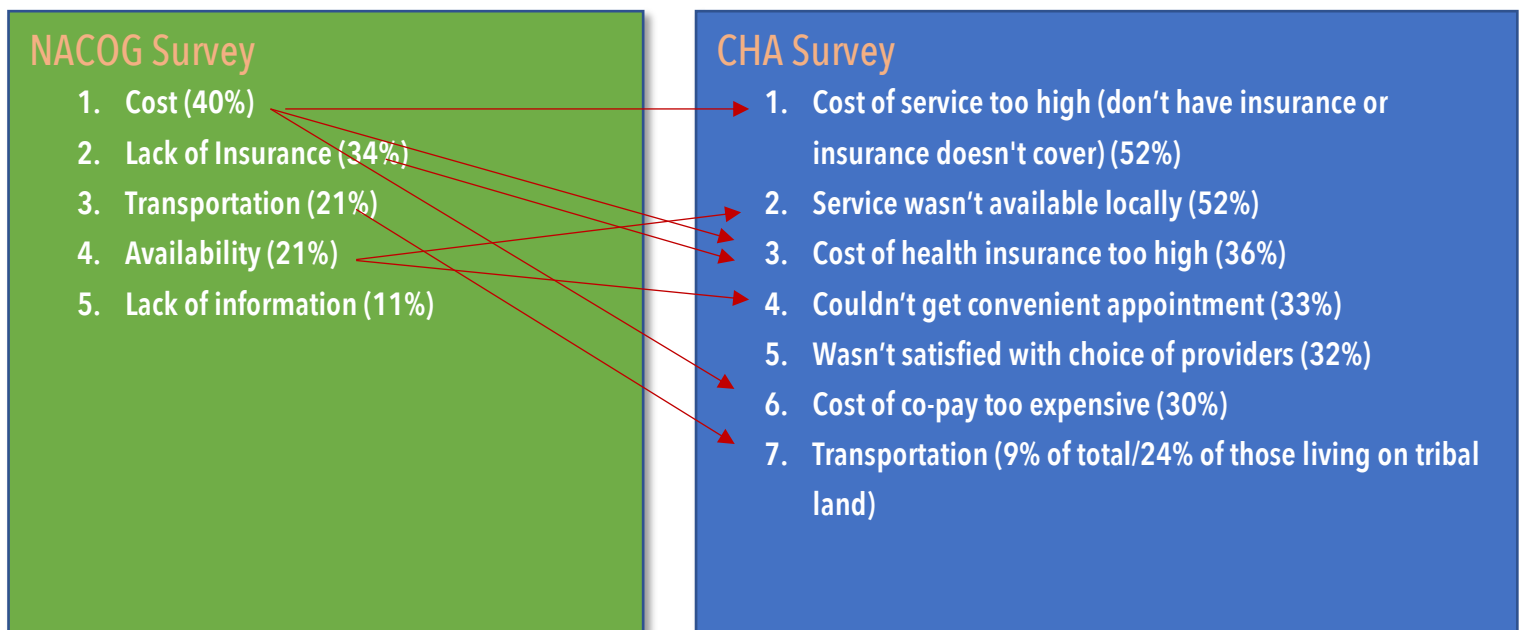
-- CHA Focus Groups

at the costlier emergency room when the disease or condition may have progressed to a more serious form.

Accessibility to Healthcare

As is true for many rural communities across Arizona and the US, access to healthcare for Navajo County residents can be difficult. Residents see their status as rural residents as an unwinnable battle. “A lot of our issues...are from being in a rural, small area,” said one, “and that’s something that – if you don’t live in Phoenix or you know, even Flagstaff --...too bad for you.” In an ideal healthy community, healthcare is accessible to all, residents said. A respondent in the focus groups said when describing a “healthy community”:

“Importance of accessibility to good health care, in particular mental health care is a big thing for a healthy community...Easy accessibility to excellent healthcare where their personal financial decisions won’t interfere with seeking care.”



Two different studies highlight the barriers residents face when they try to access healthcare. First, the NACOG Survey offered a list of possible barriers to seeking care and respondents selected “cost” the most often (40%), followed by insurance (34%), transportation (21%), availability of healthcare (21%) and lack of information (11%) as shown above.⁹⁹ Second, in the CHA Survey cost of the health service and cost of insurance were also among the barriers chosen most often, followed by not being able to get the service locally or inability to get a convenient time. Comments shown in the panel on the previous page were typical in the focus groups.

Some may assume that American Indian tribal members, because they have access to Indian Health Services, might differ greatly from others in Navajo County when it comes to what causes barriers to getting healthcare. On the one hand, this is true - the lack of

transportation and getting a convenient appointment time was more pronounced for those living on tribal land than for others. On the other hand, those living on tribal land had almost all of the same barriers to healthcare as did members of the community not living on tribal land. The only difference is in the cost of insurance, which is provided to tribal communities, so this is the one concern they do not share with those living outside of tribal land.



Linguistic and Cultural Competence

It is difficult to measure the cultural competence of providers in any community, but particularly when the provision of medical services is, for the most part, separated for tribal members and non-members. For the most part, American Indian residents (tribal members) use Indian Health Service (IHS) while others use the various other resources and assets mentioned earlier in this chapter. This is certainly not exclusive, but it is the predominant pattern. Thus, many residents form opinions from an outsider's view of the system they don't use. For example, two focus group

respondents, who were not tribal members but had some exposure to IHS, said the following about cultural competence in healthcare in Navajo County:

"My daughter works at Community Bridges, which is a sober recovery unit...They have a full-time – a medicine man – on staff and another, um, full-time guy that does cultural healing and sage something and prayer...I know they have created those positions to help with some of the cultural differences to help people in a way that would be more suited to their culture."

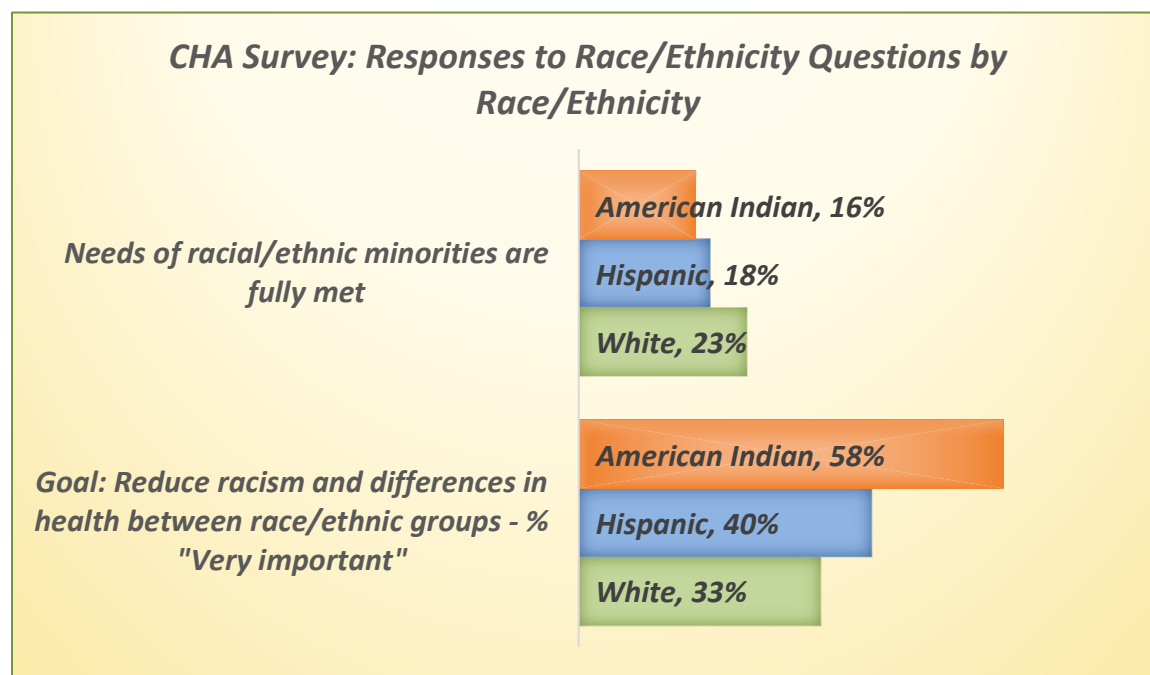


“One of the things I really enjoyed about working at IHS, or with the Native population, is, um, some of them would come from the reservation, could not speak English, they *always* brought an interpreter. And you don’t see that with other cultures.”

The tribal members attending the focus group did not comment on cultural competence when the question was posed to the group. Therefore, it is unclear whether or not they agreed with this commentary.

One study can shed light on one group of tribal members – those who live on the Navajo Nation. A Navajo Nation study (that included tribal members from the whole nation and not just those in Navajo County) were asked, “In the past 12 months seeking healthcare, do you feel your experiences were worse than, the same, or better than people of other races? Seventy-two percent selected “the same” as other races, 10% said “better than other races,” and only 8% said worse than other races.¹⁰⁰ This is promising and reflects well on healthcare facilities where tribal members get care – most likely at IHS.

In contrast, there are some findings that indicate American Indian residents, and to some degree, Hispanic residents, may feel that there is at least some inequality between race/ethnic groups when it comes to health and healthcare. First, as mentioned earlier, there are an estimated 2,000 homes in Navajo County that are “linguistically isolated,” meaning households in which no adult or older child speaks English well. Based on the languages spoken in these homes, the residents are most often American Indians, and this puts them at a disadvantage for accessing healthcare or other necessities and services for which the English language is necessary.

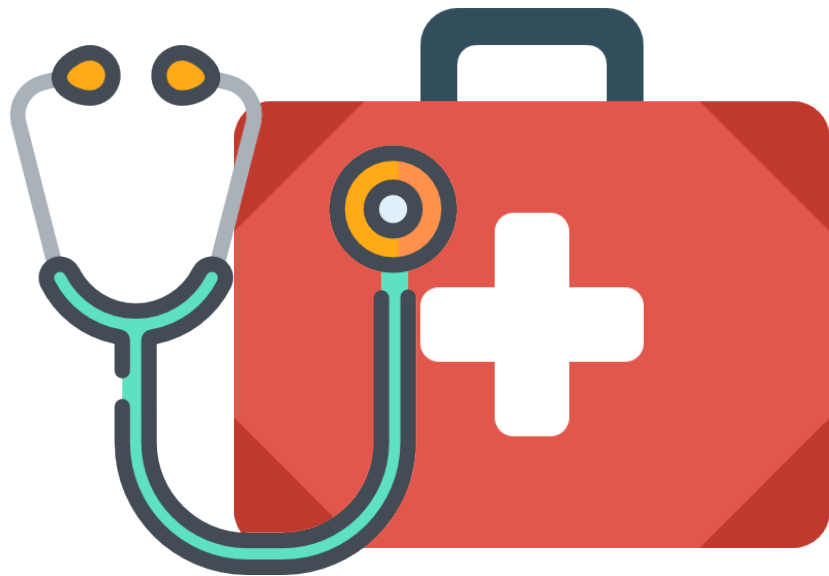


Second, as shown in the chart above, when respondents taking the CHA survey were asked how well the needs of certain groups in the community were being met, Hispanics and American Indians were less likely than whites to say that the needs of “racial/ethnic minorities” are being fully met, suggesting that there may be room for improvement for these groups. In the same survey, when asked to rate the importance of various goals, American Indians and Hispanics were more likely than whites to rate “Reduce racism and differences in health between race/ethnic groups” as very important. It’s worth noting, however, that although tribal members and Hispanics were more likely than whites to prioritize health inequities, they still did not place this issue above reducing substance abuse or diabetes – goals that were shared by many groups represented in the survey, as discussed earlier in the report.

Quality of Care

According to the CHA Survey and CHA Focus Groups, many Navajo County residents have a regular primary care provider, and some mentioned having a particular provider who they liked. However, 32% of respondents taking the CHA survey said that one of the reasons they did not get care when they needed it was because they were “not satisfied with choice of providers.” Those who live on tribal land selected this barrier as well, with 37% saying the choice of providers stopped them from getting care at least once in the past year. It’s important to note that the survey question was a general statement, “Wasn’t satisfied with choice of providers” and could have been interpreted as not having specialists available, not having enough choices, or not liking the specific providers available.

Anecdotes from focus groups and survey respondents shed some light on what residents think is the quality of care available in Navajo County. First, some respondents felt that all care in Navajo County is so inadequate, or even dangerous, that they prefer the options available in Phoenix, Flagstaff, or Scottsdale. A survey respondent said, “I feel many outdated and sometimes dangerous practices are still being used by healthcare providers in the area” and another claimed, “I hear about misdiagnosis happening all the time.” A focus group participant said, “I’d rather die on the way to Flagstaff than die here.” The providers at the local facility in Navajo County “don’t have the best reputation,” said one participant who drives to locations outside of the county for all healthcare, even emergency or urgent care.



This sentiment is not exclusive to those using the facilities for the general public. “I have chronic illness, and I feel that I do not receive the proper care and medication from the local Indian Health Services,” one respondent commented. “[IHS Facility] is only ambulatory care. Patients have to travel off [tribal land] to get specific services not offered,” explained another survey respondent. Additional comments were the following:

“Getting quality health services for Natives in Navajo County is a big issue. We have IHS however there are long waiting lists and poor services are received. There is no education provided for us, we are given bottles of pills one after another. I can understand why ‘grandma would rather not go to a health care provider.’”

“When visiting the [IHS Facility] on the reservation, 70% of the time I end up traveling to Flagstaff Urgent Care for a second opinion as I was misdiagnosed and don’t have much faith in the providers here anymore. So, the cost of health care goes up for travel expenses, time off of work, co-pay and medication. Sad that we cannot rely on the [IHS Facility] for our illness.”

When discussing the facilities and providers for the general public, some blame the lack of services and inadequacy of services on one major provider. Several survey respondents said that this organization was creating a “monopoly” on services. For example, one respondent said, “[Provider] is monopolizing our community and their payment collection practices are despicable!” Another wrote, “[Provider] trying to further their monopoly will only lead to a deterioration in choices and quality.” “Stop [Provider] from acquiring various practices!!!! independent practices must be allowed,” said another.

“[Provider] is creating a “monopoly” by buying out all the providers on the mountain and surrounding areas. Then they don’t accept my insurance all of the sudden...unfortunately they bought out my PCP so now I have to find another provider because he is a [Provider] employee and can't take my insurance either now.”

I'll Stand by You

““I had the best care when I was there, my family all established their care with [doctor’s name] as well and we love his staff, very trustworthy kind bunch of people. I do not trust [different provider]! We left there for a reason.”

“Please thank the providers who sincerely want to bolster community health. I'd like a way to secure you enough resources, training opportunities, equipment, and well-trained staff to give us the best kind of care that you want for us.”

-- CHA Focus Groups

The city...has allowed [Provider] to become a monopoly, buying out all competitors in the immediate area and increasing the cost of healthcare for our residence to an insane rate.”

Yet, not all feedback about the quality of care was negative. As mentioned earlier, many focus group respondents mentioned liking their primary care providers, even if it was hard to get an appointment. A survey respondent talked about the provider mentioned by others above and said, “I think {Provider} is doing a good job...and bringing in more specialized doctors.” One focus group respondent liked her ill mother’s provider so much that when her mother passed away, she asked the provider if she could take her mother’s place on the patient list. (She was denied because the provider already had too many patients.) Similar stories are shown in the orange panel above.

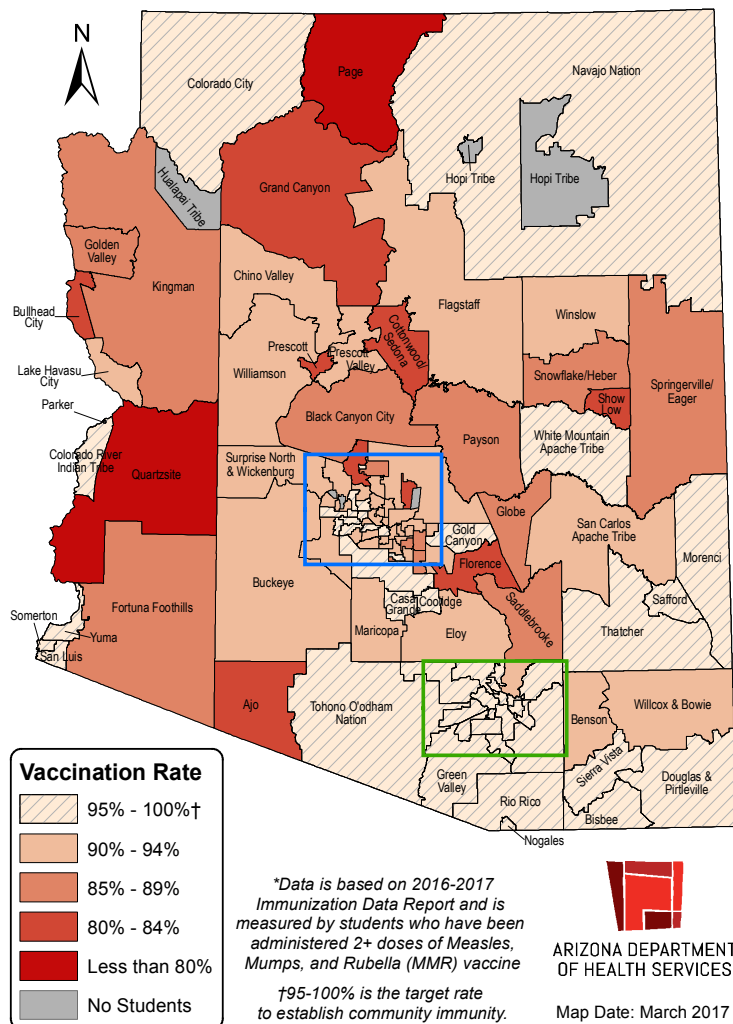


Neither the survey nor the focus groups were specifically focused on evaluating the quality of care, so these findings should be considered anecdotal. Additionally, these responses were in answer to general questions such as “What else would you like to tell us?” which can sometimes elicit a list of concerns.

Preventative Practices – Vaccinations and Screenings

The Arizona Department of Health Services reports that in the 2016-17 school year, parts of Navajo County were vaccinating children at lower rates than necessary to protect public health. For example, the Show Low area had fewer than 80% of kindergarteners vaccinated against measles. In contrast, more than 95% of kindergarten students in the Navajo Nation and on the White Mountain Apache tribal lands were vaccinated. Winslow had a rate near the rate for the tribal communities and higher than Show Low at 90%-94%.

Percentage of Arizona Kindergarten Students Immunized Against Measles, 2016-2017*

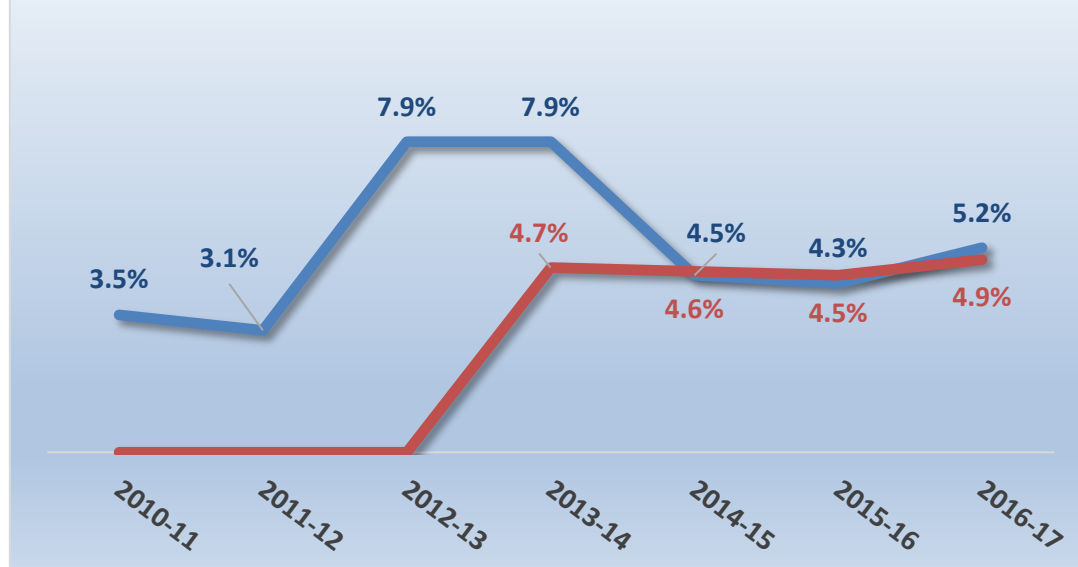


When enough parents choose not to vaccinate, this threatens the “herd immunity” of a community or the percentage of individuals in a community who must be immune to a disease for it not to spread when introduced. For example, in the measles outbreak of 2016 in Arizona, measles spread quickly among unimmunized individuals. The outbreak was finally over after 22 individuals contracted measles. Luckily, there were no deaths associated with the 2016 outbreak, but measles can cause death in about one to two cases out of every 1,000 and brain damage in one out of 1,000. Importantly, it can affect vulnerable populations with more serious consequences – populations such as seniors, infants, people receiving chemotherapy, and others.¹⁰¹

As vaccinations are required for attendance at public schools, only parents who submit

exemption forms may opt out of vaccinating. In most schools, this is accomplished by filling out a personal or religious exemption form. As shown in the chart to the right, In Navajo County in 2012-13 and 2013-14, the percentage of parents choosing exemption was quite high at 7.9%, much higher than Arizona at 4.7%.¹⁰² The rate has gone

Personal Exemption from All Vaccines (Kindergarten), 2010-11 to 2016-17



down since then but rose slightly in 2016-17 as shown in the graph above. The exemption rate (fewer vaccinations) was highest in the Snowflake/Heber area (8-13% exemption rate), followed by Show Low (5-7%), and Winslow (2-4%). The Navajo Nation and the White Mountain Apache Tribe had the lowest exemption rate (0-1%).

The timing of the exemptions peak in 2012 through 2015 and subsequent decrease coincides with the national discussion about vaccinating and may explain the change. By the mid-2010s, it became widely known that the research that claimed vaccinations were connected to autism had been falsified and no connection existed (or exists today) between autism and vaccines.¹⁰³ Even with more parents complying, however, Navajo County had only 42% of schools that had community immunity to measles (95% of students per school that are up-to-date with measles, mumps, rubella [MMR] vaccinations) at the kindergarten level compared to 58% of schools in Arizona in 2016-17. At the sixth-grade level, 74% of schools had community coverage compared more favorably to Arizona's 79% of schools.¹⁰⁴

The pattern is similar for other vaccines as well as measles. Navajo County had similar or slightly lower coverage rates for many vaccines required for public schools, as shown in the table below:¹⁰⁵

Childhood Immunization Coverage, 2016-17						
	Childcare/Preschool (18+ months of age)		Kindergarten		6th Grade	
	Navajo County	Arizona	Navajo County	Arizona	Navajo County	Arizona
Number of students enrolled	1,203	85,282	1,404	83,627	1,315	87,699
4+ Diphtheria, tetanus, pertussis (DTaP)	90.9%	93.2%	91.0%	93.9%	96.7%	96.9%
3+ Polio	92.2%	94.7%	91.5%	94.4%	95.8%	97.0%
1+ Measles, Mumps, Rubella (MMR)	91.8%	95.3%				
2+ MMR			90.6%	94.0%	96.3%	97.0%
3+ Haemophilus influenzae type b (Hib)	96.4%	94.8%				
2 Hepatitis A**	72.7%	82.4%				
3+ Hepatitis B	96.8%	94.1%	94.2%	95.3%	96.3%	97.2%
1+ Varicella or history	97.3%	95.4%	95.4%	96.7%	96.5%	97.8%
1 Tetanus, diphtheria, pertussis (Tdap)					90.2%	91.4%

In addition to administering vaccines, providers and healthcare facilities can also provide disease prevention with screenings. These screenings are intended to catch diseases early in the disease progression (“secondary prevention”) or even identify factors that might put a patient at greater risk for a disease and advise the patient accordingly (“primary prevention”). An example of the latter might be obesity screening as a prevention for diabetes, heart disease, and other conditions. As shown in the table below, there were many types of screening done in Navajo County in 2017.¹⁰⁶ For adults, the most frequent were related to substance abuse and other behavioral health issues. Well-woman visits, including Pap tests (cervical cancer screenings), mammograms and general exams were also frequent. Additionally, there were screening and counseling visits for obesity, a promising sign as providers can help to get obese patients focused on weight, healthy eating, and other related topics. (See the Health Outcomes chapter for additional data on patient visits.)

Selected Clinical Screening Visits, Adults, Summit Healthcare, North Country Healthcare, ChangePoint Integrated Health, 2017			
	Summit Healthcare	North Country	Change Point
Substance Use and Other Mental Health Screening			
Alcohol misuse screening and counseling		104	
Tobacco use disorder		436	
General mental health*			5,408
Substance abuse counseling*			1,124
Seriously mentally ill*			2,536
Women’s Health			
Well-woman visits	1,188		
65 and older	105		
Breastfeeding support and counseling	17		
Mammography screenings	1,899	142	
Cervical cancer screenings	467	187	
Breast cancer genetic test counseling	1		
Chronic Disease-Related			
Obesity screening and counseling**	927	1,052	
Cholesterol screening	736		
Anemia screening	375		
Abdominal aortic aneurysm one-time screening	53		
Lung cancer screening	9		
Other Screenings and Prevention			
Seasonal influenza vaccine		1,008	

Syphilis screenings

290

*Estimated based on all patients who received this intervention - one visit counted for screening.

**Includes both screening and counseling.

There were also thousands of screenings among children and teens in Navajo County. The most frequent screening was part of well-child visits, which often included vaccinations. There were also over 2,000 visits related to general mental health or developmental issues. Oral exams were provided by one of the providers and there are likely more dental exams conducted by private dentists that are not captured here. Finally, there were 211 visits for suspected lead exposure, a condition that can negatively affect brain and nervous system development. All are shown in the table below.¹⁰⁷

Clinical Screening, Children and Teens, Summit Healthcare, North Country Healthcare, ChangePoint Integrated Health, 2017

	Summit	North Country	Change Point
Well Visits and Vaccinations			
Child well visit, including behavior observations	4,196		
Vaccine visits (may include multiple vaccines)	1,463	934	
Health supervision of infant or child		781	
Developmental/Mental Health			
General mental health screening*			2,400
Lack of expected normal physiological development		100	
Autism screening	15		
Other Screening			
Oral exams		529	

Contact with and (suspected) exposure to lead	211
Obesity screening and counseling	13
*Estimated based on all patients who received this intervention - one visit counted for screening.	

Health Disparities I: Hopi



As mentioned earlier, Hopi is a sovereign nation and is situated almost entirely within Navajo County. Like many other Navajo County residents, Hopi residents also face some challenges when it comes to economic, social, and healthcare factors. Many Hopi residents live at or below the poverty level – 57% as compared to 30% for Navajo County as a whole.¹⁰⁸ Most get primary medical care at Hopi Health Care Center or Tuba City Regional Healthcare Corporation, both facilities associated with IHS.

In 2015, the Hopi community conducted the Hopi Health Care Center & Hopi Tribal Health Services Survey of 952 Hopi residents. They followed the next year with the 2016 Hopi Health Summit. The Summit was organized “to conduct a comprehensive planning process of the local rural health care system by evaluating and analyzing community needs.” This section summarizes the conclusions made by the Hopi community in their 2016 Hopi Health Summit, *“Sumitunatyat akw lomaqatsit pasiwnayani”* (“Empowering and creating a pathway of wellness through common and shared goals.”) The summit included focus groups among 214 community members in four breakout groups. The breakout groups were organized around the top health concerns identified in the survey. According to Hopi health professionals, the 2016 Hopi Health Summit report is the document that best describes the community’s health status and plans for the future.¹⁰⁹

Hopi: Top Health Concerns

In the 2015 Hopi Survey, respondents were asked to list their top health care concerns. They were given numerous choice options and were allowed to pick as many as they wished or add issues

Top Health Concerns, Hopi, 2016

Diabetes, 557

Cancer, 485

Alcoholism, 465

Obesity, 444

Depression, 376

Heart Disease, 373

Domestic Violence, 351



Hopi Way of Life

“Many [residents] wanted us to continue...incorporating Hopi teachings, the Hopi ways of life and how it is beneficial to our health.”

-- Hopi Summit Report, 2016

not already listed. As shown in the chart above, diabetes, named by 557 of the respondents, was first on the list. Cancer was next (485), followed closely by alcoholism (465) and obesity (444). Obesity, of course, can be a cause of diabetes, so these two issues are related. The chart below shows that diabetes, alcoholism, and cancer have consistently shown up as priority issues for the Hopi in previous years.

Leading Hopi Tribe Health Priorities		
2003 Survey	2007 Survey	2015 Survey
Diabetes	Cancer	Diabetes
Alcohol/Substance Abuse	Elderly abuse	Cancer
Contract health services	Domestic violence	Alcoholism
Access to services	Teen pregnancy	Obesity
Elderly care clinic	Child abuse	
Elder abuse		

Hopi Way of Life

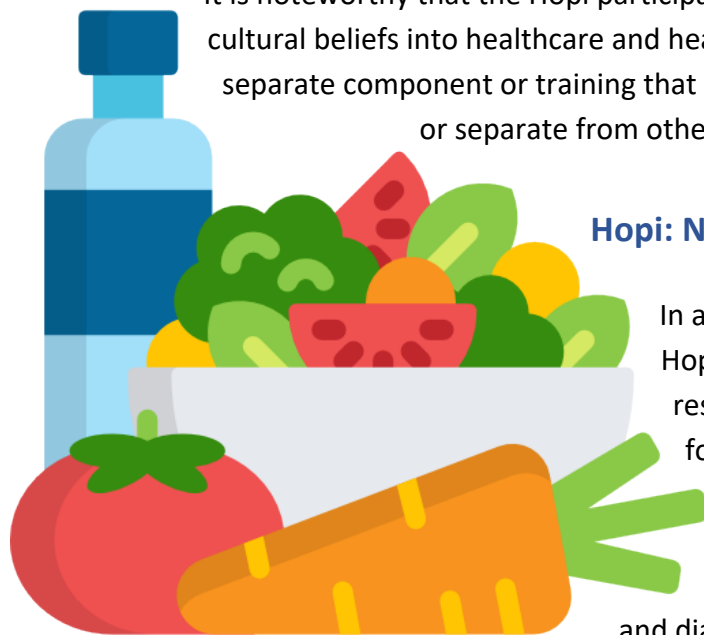
Addressing the health concerns and promoting health, needs to be within the context of the Hopi cultural beliefs and ways of life. The Hopi Health Summit Report (2016) said, “Many [residents] wanted us to continue Hopi teachings...incorporating the Hopi ways of life and how

it is beneficial to our health but needs to be improved upon.” The report also pointed out the importance of grounding healthy behaviors in the home, with the family as a whole, and not just individual family members.

The report lists many practices that would promote health while still maintaining the Hopi way of life:

- More daily activities outside of the home rather than staying inside
- Making time for exercise and eliminating excuses
- Purchasing healthy foods rather than unhealthy foods and consider doing away with the junk food
- Not “going overboard with food prepared during cultural ceremonies” and avoiding providing unhealthy food during ceremonies.”

It is noteworthy that the Hopi participants talked about a way to *integrate* cultural beliefs into healthcare and healthy lifestyles rather than to have a separate component or training that imposes cultural considerations on top of or separate from other practices.



Hopi: Needs

In addition to the survey results above, the Hopi Health Summit also explored what residents had to say in community focus groups/focus groups. They organized the focus groups around the four priority areas identified in the survey: diabetes, obesity, cancer, and alcoholism. Obesity and diabetes are grouped together here as the

themes, topics, and recommendations overlapped significantly. This section provides a summary of the findings from the focus groups.

Obesity and Diabetes (Focus Groups)

In the focus groups, Hopi residents pointed out a number of activities related to obesity and diabetes that they found helpful and some suggestions for what might be helpful in the future. Examples are shown here:

- The 100 Mile Club, a self-paced 12-week walk/run program which has been in existence for 24 years. It is often mentioned by residents as an excellent motivator for keeping fit.

- Community events and planned activities, such as Adventures for Hopi, an experiential education program for Hopi youth
- School and family exercise programs
- Encouragement of traditional activities such as running, planting, gardening and social dancing
- The farmer's market and food co-op
- "Local stores should sell healthier foods and provide healthier food choices" and education "on healthy eating, and traditional foods needs to be emphasized."
- Health education for families who have a family member with diabetes and general health education from providers
- Some mentioned the "Stop the Pop" campaign intended to reduce drinking of sodas, which is no longer active



Cancer (Focus Groups)

Respondents acknowledged and appreciated existing cancer prevention and education and suggested some additional activities.

- Existing community presentations, fun run/walks, screenings
- Support groups are helpful, but were not available lately
- Respondents wanted more village support of cancer patients
- They also wanted:
 - Reaching out to men and promoting men's cancer screening

- Preventative education, especially among older adults
- Providers to be more practiced in education, treatment, and care
- To explore if there is a link between cancer and arsenic in water¹¹⁰
- Palliative care for those who are already living with cancer

Alcoholism (Focus Groups)

In the Hopi focus groups related to alcoholism, another high priority identified at the Hopi Health Summit, respondents said they found talking circles, culturally based healing services and mentoring programs to be helpful and useful in alcohol abuse recovery and treatment. One individual had even started a “sober running group” to set an example and help those in need. In addition, residents wanted to have the following:



- A local rehabilitation center “that incorporates Hopi values and language”
- Group sessions on weekends, saunas or traditional sweat lodge participation, and mentorship
- More talking circles and testimonials
- Family involvement (grandparents, parents, elders, youth, teens) in substance abuse treatment
- Education about the risk of alcoholism for those who have experienced post-traumatic stress disorder (PTSD), sexual abuse, depression, etc.
- Stricter laws and enforcement to address bootlegging

Other Themes (Focus Groups)

Several themes went beyond the boundaries of any one topic and came up in several focus groups on different topics. These themes were:

- *Behavioral Health.* Many felt that there needs to be a psychiatrist hired for behavioral health and they requested additional group therapy classes. Themes focused around

children and teen services regarding drugs and alcohol, mental health therapy, suicide and depression. Additionally, they asked for support groups and counseling for cancer patients.

- *Providers.* As mentioned in other areas of this report the shortage and short tenure of medical providers creates issues for Hopi residents just as it does for other residents of Navajo County. In the focus groups, Hopi residents said that there were too few providers and they often they did not have a continued relationship with a provider due to either provider turnover or the skills of the provider.
- *Collaboration.* Residents wanted to see more collaboration between the Hopi Healthcare Center (HHCC), the Hopi Tribe and nonprofits offering health-related services. They wanted to see strengthened relationships between institutions.
- *Nutrition Education.* Education on proper eating to avoid or manage obesity, diabetes, cancer, and other conditions was mentioned across groups by respondents. Education on healthy eating, access to healthy foods and incorporating traditional foods into healthy eating were all mentioned.

Hopi: Services

Hopi survey respondents were asked which existing services were the most helpful to them and what additional services they'd like to see offered. The Hopi Wellness Center was most

often chosen as a helpful service, as was the diabetes program, as shown in the chart to the left. The Hopi Wellness Center, located in Kykotsmovi Village in the center of Hopi, is a “professional team offering services in promoting healthy lifestyles through Health Promotions and Disease Prevention,” according to their website. The center offers a diabetes program, fitness center, and other services.¹¹¹ The other services that respondents felt were helpful corresponded with priorities identified earlier in the survey, such as diabetes, substance abuse and cancer, as well as transportation and others.

Services Most Helpful to Health, Hopi, 2015

Hopi Wellness Center, 55%

Diabetes Program, 55%

Transportation Services, 49%

Nutrition Program, 42%

Substance Abuse Program, 41%

Cancer Screening, 40%

Office of Adult and Aging, 32%

These services did not address the health concerns of all respondents, however. As shown in the table below, two in three agreed that

current services addressed their health concerns and the remaining one in three said the services did not. Among those who said their needs were not being met, respondents mentioned patient care and transportation - themes in common with CHA focus groups (which were held among the general population of Navajo County residents). As mentioned earlier, getting and keeping providers is a challenge in the county. The lack of providers creates a ripple effect as availability of appointments decrease, wait times increase, and patients don't have the opportunity to get to know their providers - all of which were mentioned in the survey as shown

Recommended Services, Hopi Survey, 2015

Current services address health concerns	66%
Current services do not address health concerns	34%
Services desired (among those who say current services do not address concerns)	
Doctors availability and professionalism	19%
Patient care concerns	13%
Appointments length of time to be seen	8%
Improvement of staff/patient interactions	7%
Programs desired	5%
Improved education outreach	4%
Mental health services	3%
Improved patient transportation	2%
Improved dental services	2%

shown

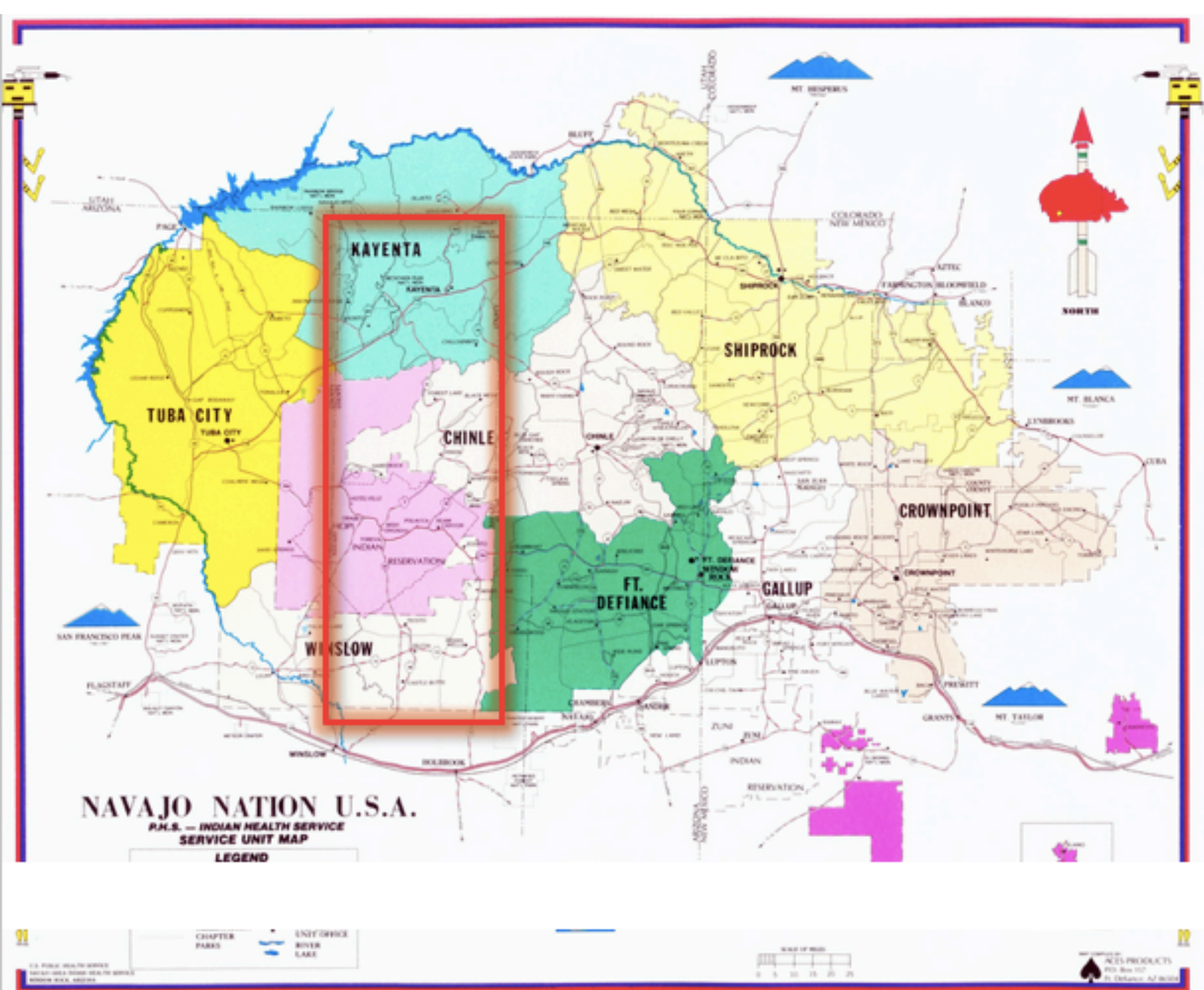


The HHCC [Hopi Health Care Center] reported that it has “been struggling to retain and recruit permanent *Medical Providers* [emphasis in original]” and that it has had to stop offering some services or refer patients to other organizations because of the shortage. This adds to the need for transportation because it requires some residents to travel long distances to receive care.

Need for Providers

“The HHCC [Hopi Health Care Center] has been struggling to retain and recruit permanent Medical Providers...”

-- Hopi Health Summit Report 2016



Health Disparities II: Navajo Nation

Health on the Navajo Nation is an important part of the health of the community. However, the Navajo Nation is a sovereign nation and does not use the boundaries of U.S. states or counties to subdivide the nation. Thus, there are no reports that specifically profile the co-residents of the Navajo Nation and Navajo County, which would be the ideal group to include in this assessment. However, the Navajo Nation does publish some demographic and health-



related information about Navajo Nation residents as a whole or by “agency” which is a subdivision of the Nation that might be considered comparable to a state in the U.S. The map above shows the boundaries and agencies in the Navajo Nation. The area superimposed in red is the overlap of Navajo County, the Navajo Nation, and Hopi (the pink area on the map.)

This section of the health assessment draws on several reports that represent either a part or all of the Navajo Nation. These reports were recommended by and published by the Navajo Nation Health Department. The information in these reports may or may not be representative of the Navajo Nation residents who reside specifically in Navajo County, for several reasons. First, the Navajo Nation tends to include older data, some dating up to a decade ago. Second, some of the methods differ from the methods used for other studies. Third, as mentioned earlier, the reports cover geographic boundaries beyond the borders of Navajo County. Therefore, we cannot make direct comparisons between figures from these reports and other figures shown for Navajo County. However, the information presented here does give a profile of life on the Navajo Nation.

The reports used in this section are the following:

1. An analysis of mortality data from death certificate of Navajo Nation residents. *Navajo Nation Mortality Report 2006-2009, Arizona and New Mexico Data*, Navajo Epidemiology Center.¹¹²
2. *2013 Navajo Nation Health Survey, Chinle Agency Results*, Navajo Epidemiology Center, Navajo Department of Health. The only study on health behaviors available at this time, although the Navajo Nation is rolling out the survey to other areas in the future. There were 1,220 total complete surveys by Fall 2013 in Navajo and English versions. The Chinle Agency overlaps with part of Navajo County.¹¹³

Percent of homes
on the
NAVAJO NATION
that have:



Electricity: 94%

Running Water: 73%



Personal vehicle:
65%

3. *2011 Navajo Nation Middle School Youth Risk Behavior Survey Report*, October 2013.
Survey among 9,152 students in 81 public middle schools on and near Navajo Nation.¹¹⁴
4. *2011 Navajo Nation High School Youth Risk Behavior Survey Report*, October 2013.
Survey among 14,948 students in 46 public high schools on and near Navajo Nation.¹¹⁵

Navajo Nation: Living Conditions and General Health

As discussed earlier, the health of a community depends, at least in part, by the conditions in which its residents live. In the Navajo Nation, 41% of individuals live below the poverty level. This is high compared to 30% for all of Navajo County and 18% for Arizona.¹¹⁶ As shown below, almost all homes on the Navajo Nation have electricity, but 1 in 4 residents don't have running water. One in three don't have their own vehicle, which limits activities in the rural areas that make up much of the Navajo Nation.¹¹⁷ When asked about their general health, the survey of residents in the Navajo Nation Chinle Agency area showed that 67% rated their health good, very good, or excellent – a lower percentage than residents in Arizona, the US and Navajo County, as shown below.¹¹⁸

Self-Rating of General Health, Navajo Nation (Chinle Agency), Arizona, US, Navajo County, Age-adjusted

Navajo Nation (Chinle Agency), 2013	67%
Navajo County, 2011-2016	81%
Arizona, 2015	81%
U.S., 2015	84%

Navajo Nation residents report some serious health conditions that affect their quality of life. Twenty-three percent of the respondents, compared to a similar 20% each for Arizona and the

U.S., said they were limited because of “physical, mental or emotional problems.” As shown in the table below, many report being diagnosed with high blood pressure and diabetes. In addition, over half have had a tooth removed due to oral health issues.¹¹⁹

Health Conditions, Navajo Nation (Chinle Agency), Arizona, US, 2013			
% Answering "Yes"	Navajo Nation (Chinle)	Arizona	US
Limited in any way because of physical, mental or emotional problems	23%	20%	20%
Has a doctor, nurse or other health professional ever told you that you have...			
High blood pressure	27%	31%	31%
Diabetes	17%	11%	10%
Arthritis	17%	24%	25%
Depression	14%	18%	19%
Asthma	14%	15%	14%
Had one or more teeth removed because of tooth decay or gum disease	53%		

For Navajo Nation residents, there are also mental health and stress issues that influence well-being. In the table above, 14% of Navajo Nation respondents - about 1 in 7 respondents - reported a diagnosis of depression, slightly lower than the rates for Arizona and the U.S. (The lower rate may be due to less depression among the Navajo Nation residents or may be due to not being able to/not wanting to access an appropriate health professional for diagnosis.) The table below shows that almost half of the respondents say they’ve felt that “everything was an effort” all or most of the time over the past month. Additionally, more than half (62%) were worried or stressed about paying bills.¹²⁰

Mental Health, Navajo Nation, Chinle Agency, 2013	
In past 30 days felt... (Percent who felt issue all or most of the time)	
Everything was an effort	48%
Restless or fidgety	13%
Nervous	6%
Depressed	5%
Hopeless	4%
Worthless	2%

How often in the past 12 months would you say you were worried or stressed about having enough money to...? (Percent who were always, usually, or sometimes worried or stressed about item)

Pay your bills

62%

Navajo Nation: Risk Factors

The Navajo Nation survey asked questions about a number of factors that can affect health and found many patterns similar to those for Arizona and the US, with a few exceptions. For example, the percentage of Navajo Nation residents who exercised, ate the recommended amount of fruits and vegetables, had an alcoholic drink, or binge drank in the past thirty days were all favorable compared to the percentages for Arizona and the U.S. However, obesity was higher with 48% classified as obese compared to only 27% for Arizona and 29% for the U.S. While the percent of residents who smoke cigarettes was lower in the Navajo Nation, chewing tobacco was much higher – 6 times higher than for Arizona. Although marijuana is illegal on the Navajo Nation, more respondents had used marijuana than alcohol in the past 30 months.¹²¹

When it comes to risk factors, there is a big difference between Navajo Nation men and women on many measures. As shown below, more women tend to practice healthier behaviors than do men. Women reported that they were much less likely to drink, binge drink or use marijuana than are men. Asthma was the only health condition that was worse for women.

Risk Factors, Navajo Nation (Chinle Agency), Arizona, US, 2013

	Navajo Nation (Chinle Agency)	Arizona	U.S.
Weight Classification (by Body Mass Index)			
Overweight	29%	35%	35%
Obese	48%	27%	29%
Past month, any physical activities or exercises	80%	75%	75%
At least 5 fruits and vegetables per day, age adjusted	29%	NA	23%
Smoke cigarettes some days or every day	9%	16%	19%
Use chewing tobacco some days or every day	18%	3%	4%
At least one drink of alcohol in past 30 days	14%	52%	54%
Binge drank in past 30 days	8%	13%	17%
Marijuana use in past 30 days	30%		

Selected Risk Factors by Gender and Age, Navajo Nation (Chinle Agency), Arizona, US, 2013							
Gender	Male				Female		
Self-rating of general health (Excellent, Very Good, or Good)	62%				70%		
Diagnosed with high blood pressure	33%				20%		
Had at least one drink of alcohol in the past 30 days	23%				6%		
Binge drank in the past 30 days	15%				2%		
Past 30 days marijuana use	41%				18%		
Diagnosed with asthma	7%				15%		
Age	18-29 yrs old	30-39 yrs old	40-49 yrs old	50-59 yrs old	60-69 yrs old	70-79 yrs old	80 and older
At least 5 fruits and vegetables per day	21%	37%	40%	29%	22%	19%	19%
Marijuana past 30 days	44%	51%	28%	18%	4%	2%	0%

Healthy eating and substance use appear to vary by age as well as gender. Eating the recommended amount of fruits and vegetables was highest for 30-49 years and dropped off for age groups above 49 years old. Marijuana use was also higher in the age groups under 49 as compared to the older residents.¹²²

Keeping on top of healthcare is critical for everyone, especially those at risk for serious diseases such as diabetes. The results below show that most Navajo Nation residents are trying to get proper healthcare, but some barriers are in the way. For example, while 63% had a routine check-up this year, only 30% had a regular provider. (For Arizona as a whole, the percentage with a regular provider was 66% to 72%.¹²³) This is most likely due to high turnover of providers at healthcare facilities, an issue for the Hopi Tribe and other parts of Navajo County as mentioned earlier, as well as many rural areas across the nation.¹²⁴

Healthcare Practices, Navajo Nation (Chinle Agency), 2013	
% Answering "Yes"	
Do you have one person you think of as your personal doctor?	30%
Have you visited a doctor for a routine checkup in the past 12 months?	63%
Do you use traditional native healers or traditional native medicine?	68%
Visited dentist in past year	62%

Had test for high blood sugar or diabetes within past 3 years	63%
Was there a time in the past 12 months when you needed to see a doctor but could not because of some reason?	27%
Top reason for not seeing doctor (% of those who said they couldn't see doctor when needed) - Could not get a ride to the clinic.	35%

Navajo Nation: Mortality

As shown in the chart below, mortality among Navajo Nation residents shows a preponderance of unintentional and intentional injuries as causes. The first cause of death for those living on the Navajo Nation were unintentional injuries such as motor vehicle accidents, pedestrian accidents (such as being hit by a car), falls, and accidental poisoning (e.g. overdose of drugs or alcohol). Cancer and heart disease, often the highest causes in other areas of the U.S., were second and third. Suicide was the seventh most common cause of death and assault was eleventh. Diabetes, and a related condition, renal failure, were fourth and twelfth on the list. As is the case for Navajo County as a whole, alcohol was involved in some deaths. According to estimates in the Navajo Nation report, "alcohol contributed to between 12.9% and 19.3% of all deaths."¹²⁵

Leading Causes of Death, Navajo Nation , 2006-2009	
	Total
Unintentional injuries	126.6
Cancer	103.5
Heart disease	72.4
Diabetes	47.8
Chronic liver disease and cirrhosis	43.1
Influenza and pneumonia	38.8
Suicide	17.5
Stroke	24.2
Septicemia	18.7
Dementia	21.0
Assault	12.5
Renal failure	16.3
Alcohol dependence syndrome	14.6
Hypertensive disease	12.9
Chronic obstructive pulmonary disease (COPD)	11.7

In the Navajo Nation, causes of death vary greatly by gender and age. As shown below, women on the Navajo Nation were most likely to die of cancer or heart disease (first and third highest), a pattern common in the U.S. as a whole. However, unintentional injuries were the second highest cause. The eighth highest rank cause was septicemia, which can lead to sepsis, an infection of the bloodstream. It is important to note that if sepsis is caught early, most deaths can be prevented.

For men living on the Navajo Nation, there is an entirely different pattern. Unintentional injuries are far and away the most frequent cause of death, followed by heart disease, cancer, and diabetes. For men, both suicide and homicide (assault) appeared in the top ten leading causes, as well as alcohol dependence syndrome. At 31.4 deaths per 100,000 Navajo Nation residents, suicide occurred at rates slightly higher than Arizona (28.0). Homicide as a cause of death was twice as high on the Navajo Nation as compared to Arizona (21.1, 9.9 respectively).¹²⁶

Leading Causes of Death, Navajo Nation, 2006-2009			
	Female	Male	Total
Unintentional injuries	64.9	193.1	126.6
Cancer	109.4	96.9	103.5
Heart disease	57.3	86.4	72.4
Diabetes	44.9	62.6	47.8
Chronic liver disease and cirrhosis	46.3	35.9	43.1
Influenza and pneumonia	42.8	34.9	38.8
Suicide	4.6	31.4	17.5
Stroke	23.4	24.0	24.2
Septicemia	22.3	15.2	18.7
Dementia	32.6	10.2	21.0
Assault (Homicide)	*	21.1	12.5
Renal failure	20.3	12.2	16.3
Alcohol dependence syndrome	*	23.9	14.6
Hypertensive disease	9.8	15.8	12.9
Chronic obstructive pulmonary disease (COPD)	9.7	13.1	11.7
Parkinson's disease	11.7	*	*
Alzheimer's disease	10.3	*	*
*Disease not in leading causes for this category so not reported.			

As is the case with gender, there are different patterns for different age groups on the Navajo Nation. Deaths among the very young are due mostly to unintentional injuries and issues

related to infancy. In the 10-29 year-old age groups, unintentional injuries, ye, and assault top the list. Unintentional injuries are also a leading cause for 30 to 59 year olds, with liver disease and cancer beginning to emerge as causes. For those over 60 years old, cancer, heart disease and diabetes are the top causes of death. See table below.

Leading Causes of Death by Age Group, Navajo Nation, 2006-2009					
	0-9 yrs old	10-19 yrs old	20-29 yrs old	30-39 yrs old	40-49 yr olds
#1 Cause	Unintentional injuries	Unintentional injuries	Unintentional injuries	Unintentional injuries	Unintentional injuries
#2 Cause	Congenital abnormalities	Suicide	Assault	Diseases of liver and cirrhosis	Diseases of liver and cirrhosis
#3 Cause	Perinatal period	Assault	Suicide	Suicide	Circulatory system diseases

Leading Causes of Death by Age Group, Navajo Nation, 2006-2009				
	50-59	60-69	70-79	80 and Older
#1 Cause	Unintentional injuries	Cancer	Cancer	Heart disease
#2 Cause	Cancer	Heart disease	Heart disease	Cancer
#3 Cause	Diseases of liver and cirrhosis	Diabetes	Diabetes	Influenza and pneumonia

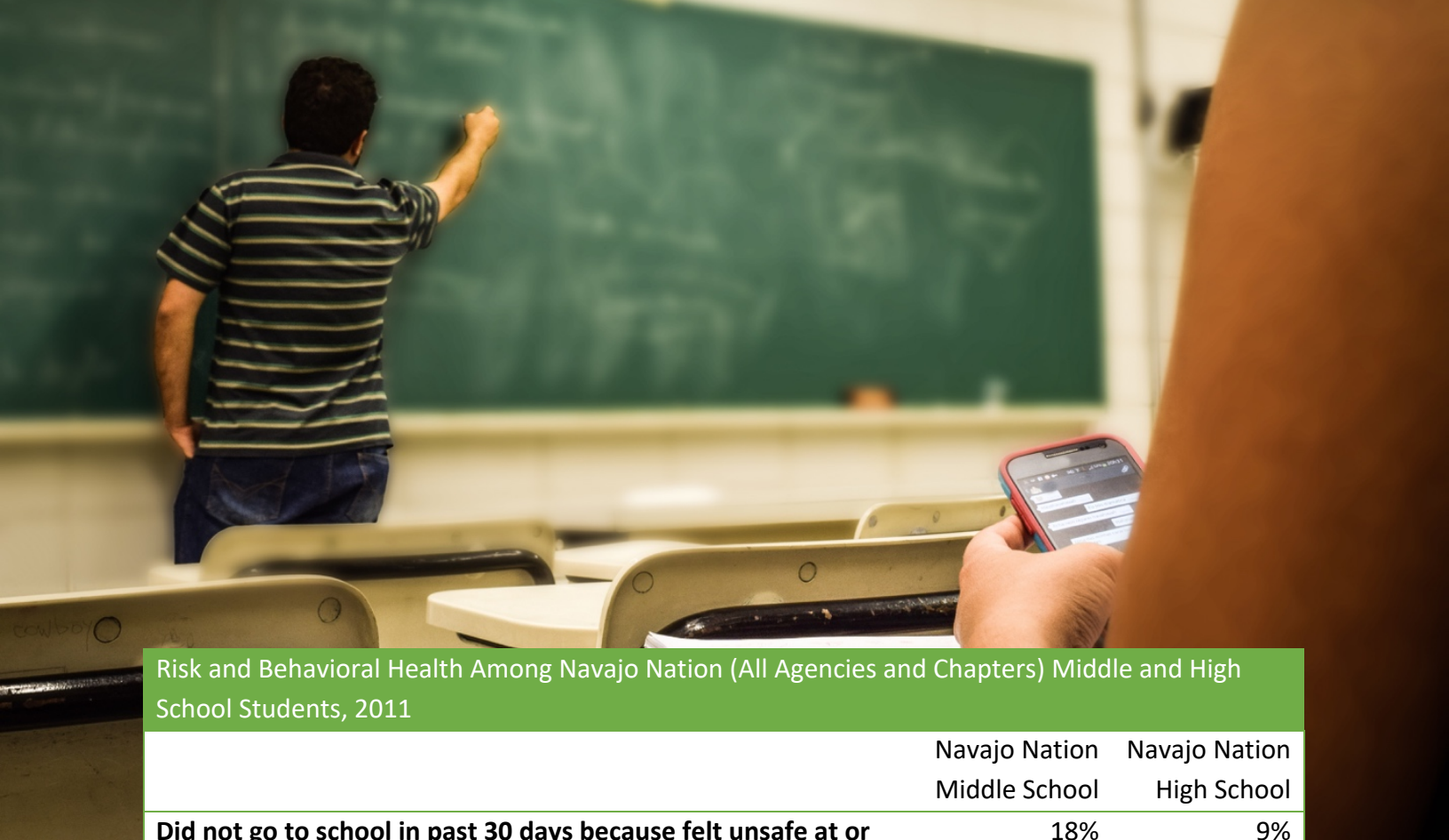
Navajo Nation: Teens and Youth

Navajo Nation youth, like youth in other areas, engage in some behaviors that put them at risk for disease or injury. According to Navajo Nation surveys among middle school and high school students, most middle schoolers have not had sexual intercourse and only 1 in 4 high schoolers had intercourse in the past three months, as shown below. Use of tobacco in various forms was used by 1 in 3 of the high schoolers in the past 30 days. Even though over 90% of teens said that they thought it was “wrong or very wrong for someone their age to drink alcohol regularly,” 13% of middle schoolers and 27% of high schoolers had used alcohol in the past month. Almost 60% of high schoolers on the Navajo Nation had tried marijuana and 60% said it would be easy to get it.¹²⁷

Substance Use and Sexual Behavior, Navajo Nation (All Agencies and Chapters) Middle and High School Students, 2011

	Navajo Nation Middle School	Navajo Nation High School
Never had sexual intercourse	91%	NA
Had sexual intercourse in past three months	NA	28%
Taught in school about AIDS/HIV	28%	65%
Smoke cigarettes or used chewing tobacco, snuff, or dip on one day or more in past 30 days	16%	32%
Used alcohol in past 30 days	13%	27%
Had five or more drinks of alcohol within a “couple of hours” on one day in past 30 days (“binge drinking”)	NA	16%
Ever rode in car driven by someone who had been drinking alcohol	24%	NA
Rode in car driven by someone who had been drinking alcohol in past 30 days	NA	24%
Ever tried marijuana	24%	57%
Ever tried cocaine (any form) in lifetime	6%	11%
Ever took prescription drug without prescription in lifetime	7%	19%
Would be very easy or easy to get alcohol	33%	66%
Would be very easy or easy to get marijuana	27%	62%
Think it is very wrong or wrong for someone their age to drink alcohol regularly	95%	91%
Think that people greatly risk harming themselves if they use marijuana regularly	41%	NA

With suicide, assault, and unintentional injury as leading causes of death for Navajo Nation teens, the environment in which teens live is important to understand. As shown below, many students surveyed were getting good grades (53%) and about half (47% for middle schoolers and 42% for high schoolers) have participated in traditional ceremonies. Some middle and high schoolers reported not going to school because they felt unsafe. Almost half of middle schoolers have been in a physical fight (47%). Nine percent and eight percent of high schoolers respectively, have been physically hurt by a boyfriend or girlfriend in the past year and/or forced to have intercourse with someone. Sadly, about one in five of teens surveyed considered suicide and more than one in ten actually attempted suicide. Many middle schoolers (66%) knew where to go to get help on “important questions affecting their lives,” but this also means that about a third (34%) did not know where to go for help.¹²⁸



Risk and Behavioral Health Among Navajo Nation (All Agencies and Chapters) Middle and High School Students, 2011

	Navajo Nation Middle School	Navajo Nation High School
Did not go to school in past 30 days because felt unsafe at or on way to/from school	18%	9%
Been threatened or injured with a weapon on school property in past 12 months	9%	7%
Carried a weapon such as gun, knife, or club	33%	NA
Ever been in physical fight	47%	NA
In physical fight past 12 months	NA	35%
Hit, slapped, or physically hurt by boyfriend/girlfriend past year	NA	9%
Ever physically forced to have sexual intercourse when did not want to	NA	8%
Considered suicide past 12 months	22%	18%
Attempted suicide in past 12 months	11%	15%
Know where to go for help about important questions or questions affecting their life	66%	NA
Described grades as “mostly A’s or B’s” during past 12 months	53%	53%
Participated in tribal ceremony such as puberty, blessing way, fire dance, etc.	47%	42%

72%
of Navajo Nation high schoolers
were physically active
for at least
60 minutes per day
for 5 days/week



When it comes to physical activity and exercise, most Navajo Nation teens are practicing some healthy behaviors. As shown in the table below, over 70 percent of both middle schoolers and high schoolers exercised to lose weight and 72% of high schoolers met the suggested activity guideline of being active for at least 60 minutes per day on five days of the week. Fewer middle schoolers met this goal, with only 42% of them being this active. Most of the students interviewed (over 70% in each category) watched less than three hours of TV or played less than three hours of video games.

Diet practices are not as health-oriented, according to the results of the survey. Only about a third (34%) of high schoolers ate the recommended amount of fruits and vegetables per day (five per day). Yet, 60% of middle schoolers and 54% of high schoolers said they were trying to lose weight. Some described themselves as slightly or very overweight – 25% of middle schoolers and 32% of high schoolers.¹²⁹

Diet, Exercise, Weight Status Among Navajo Nation (All Agencies and Chapters) Middle and High School Students, 2011

	Navajo Nation Middle School	Navajo Nation High School
Described self as “slightly overweight” or “very overweight” *	25%	32%
Overweight but not obese (as determined by CDC Growth Chart)	NA	18%
Obese (as determined by CDC Growth Chart)	NA	17%
Trying to lose weight	60%	54%

Exercised to lose/maintain weight	73%	72%
Ever taught about diabetes in school	49%	64%
Physically active for at least 60 minutes per day on 5+ days in past week	42%	72%
Physically active for at least 60 minutes per day on no days in past week	27%	13%
Watched less than three hours of TV on average school day	74%	71%
Played video/computer games less than 3 hours per day on average school day	76%	76%
Played on one or more sports teams past 12 months	64%	NA
Ate at least five fruits and vegetables per day in past 7 days	NA	34%
Ate 3 or more vegetables per day in past 7 days	NA	27%
Drank at least one soda per day in past 7 days	NA	29%
Note: The weight status question is based on a self-rating and not on actual height and weight. May not be comparable to other weight status measures in this report.		

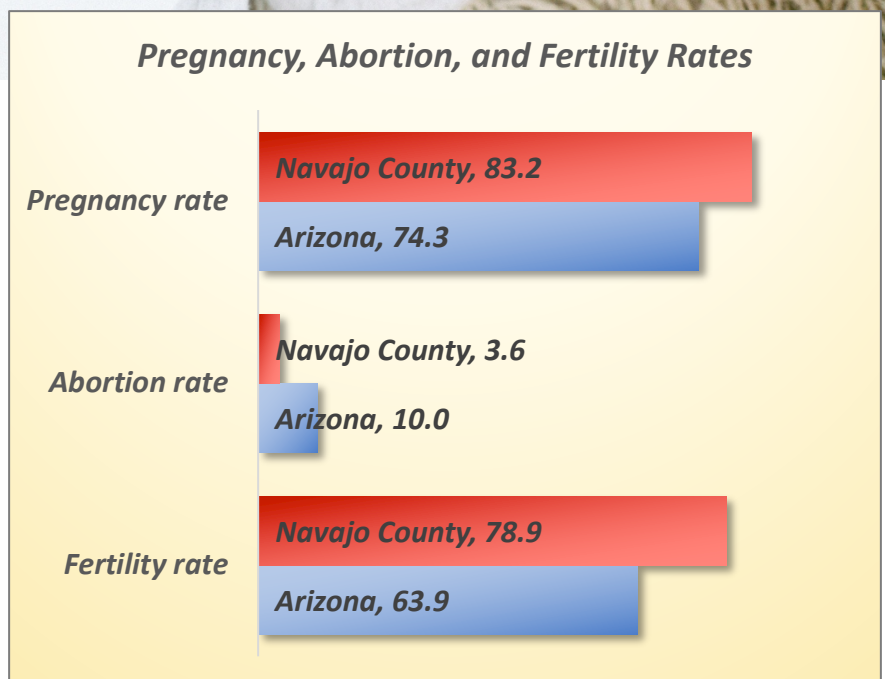
In sum, the Navajo Nation faces health challenges and enjoys some health successes:

- Women are particularly health conscious and are more likely to have healthy habits than men.
- Exercise and awareness of weight issues is prevalent.
- Unintentional injuries are pervasive and lead to many deaths.
- Suicide and assault are issues for teens and adults alike.
- Mental and behavioral health in the form of depression, stress, and suicidal ideas are also issues for teens and adults.
- Substance abuse, including alcohol, tobacco (particularly chewing tobacco), and marijuana use, affects health outcomes and can contribute to other issues such as liver disease, suicide, motor vehicle accidents, and more.
- Diabetes, cancer and heart disease are concerns for later-life health.
- Residents seek regular healthcare, but don't have a "regular provider" and can't get to appointments when transportation is not available.



Health Outcomes

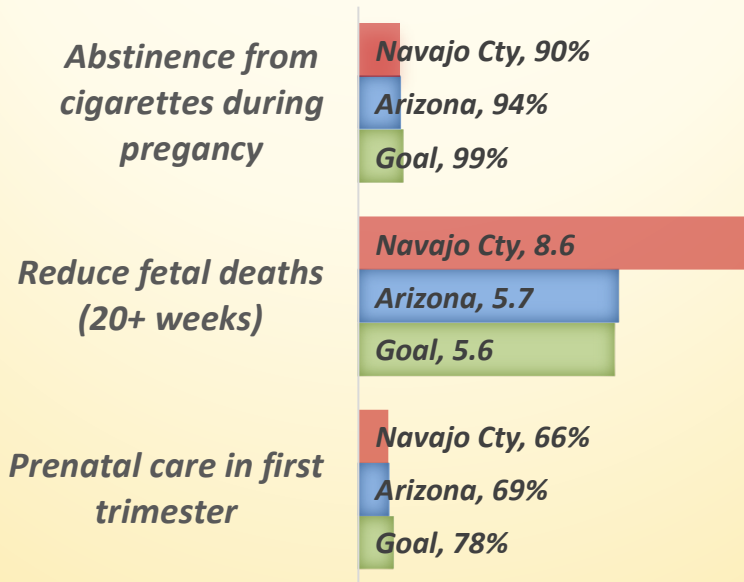
The social determinants of health, covered in previous chapters, describe the factors that influence the health of a community. This chapter covers the health effects that result from a community's social, economic, and physical environments. These outcomes include healthy pregnancies and births, causes of death, and occurrences of illnesses, among other topics. This chapter is dedicated to health outcomes for Navajo County as a whole, with comparisons to state and national rates as well as Healthy People 2020 goals. Comparisons between groups *within* Navajo County (e.g., race/ethnicity, gender, age) will be discussed in the next chapter on health disparities.



Maternal and Child Health

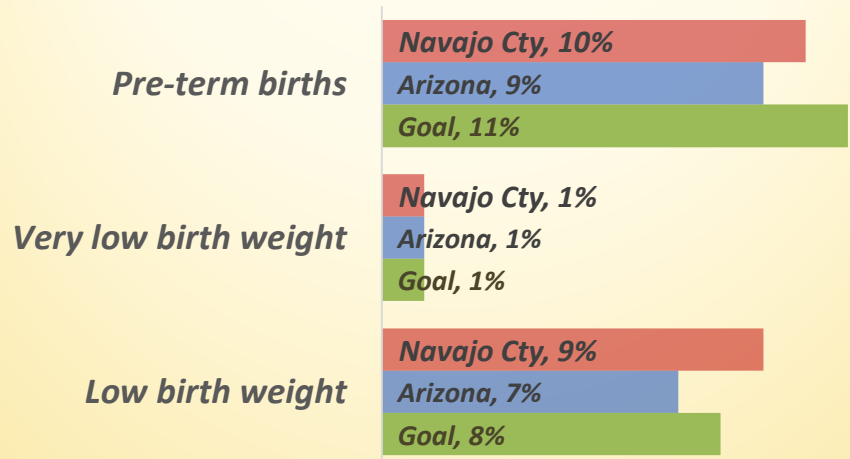
In many ways, maternal and infant health is strong in Navajo County. Women in Navajo County have a higher fertility rate and lower abortion rate than other women in the state. As shown on the previous page, the county's pregnancy rate (pregnancies per 1,000 total women aged 15-44) was higher than the rate for Arizonan in 2016. The fertility rate, which includes only pregnancies that result in a live birth per 1,000 women aged 15-44, was also higher. In contrast, the abortion rate was only one-third of the rate for Arizona.¹³⁰

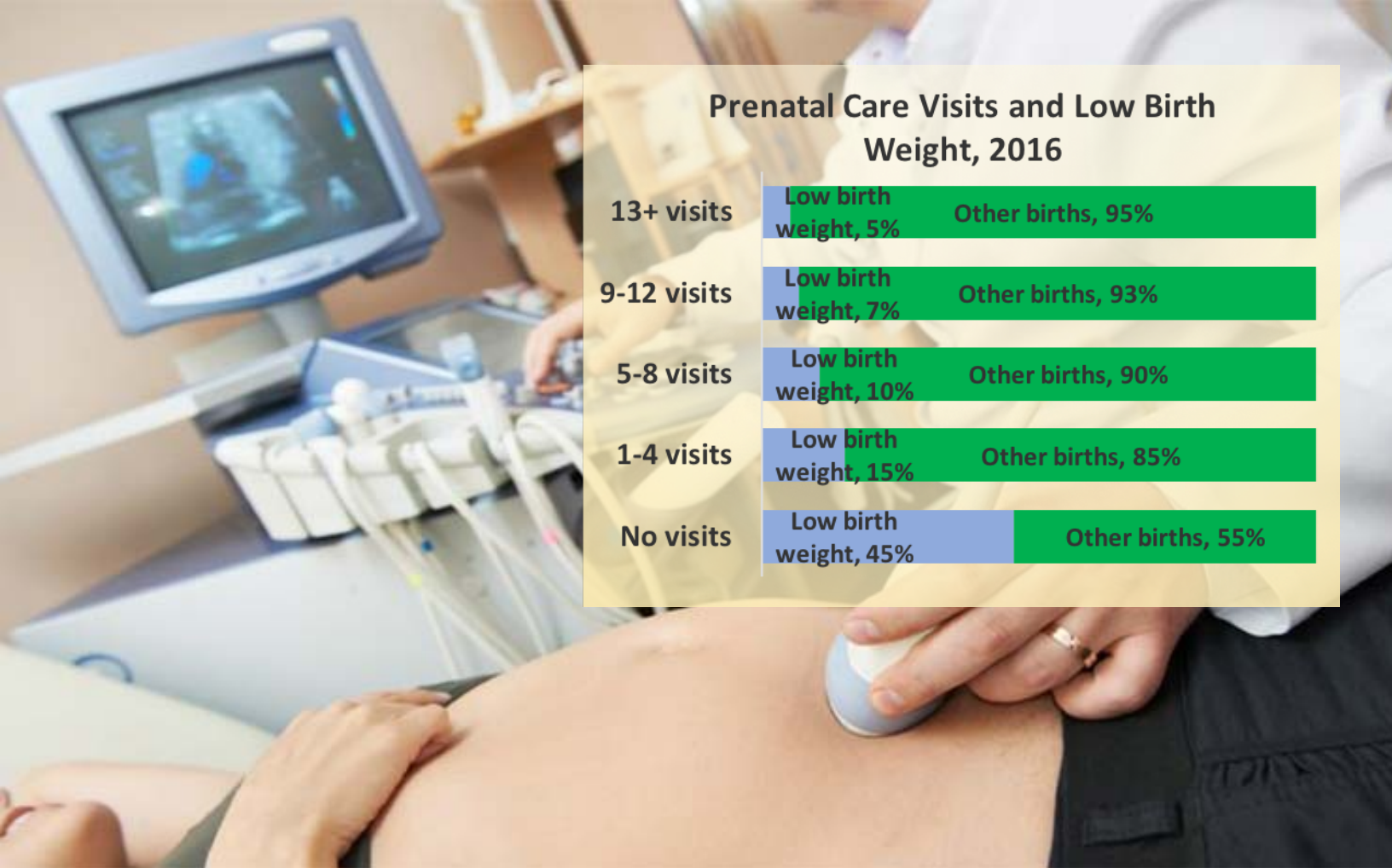
Prenatal Factors, 2016



It is important that women receive the appropriate prenatal care (care during pregnancy) so that their infants are born healthy. As shown in the chart above, Navajo County mothers-to-be are doing well on some factors and could improve on others. For example, 90% of the county's pregnant women abstained from smoking during pregnancy, but the Healthy People 2020 goal is to have almost all pregnant women abstain (99%). Two-thirds of pregnant women got prenatal care in the first trimester, but all pregnant women should receive care during that period. The Healthy People goal is 78%, which is well above Navajo County's 66%. Fetal deaths – deaths that occur at or after 20 weeks of gestation and before birth (not including intentional abortions) - were relatively

Birth Factors, 2016





Prenatal Care Visits and Low Birth Weight, 2016

13+ visits	Low birth weight, 5%	Other births, 95%
9-12 visits	Low birth weight, 7%	Other births, 93%
5-8 visits	Low birth weight, 10%	Other births, 90%
1-4 visits	Low birth weight, 15%	Other births, 85%
No visits	Low birth weight, 45%	Other births, 55%

high for Navajo County at 8.6 per 1,000 live births, compared to both Arizona (5.7) and the Healthy People goal (5.6).¹³¹ This is another reason to encourage prenatal care in the first trimester.

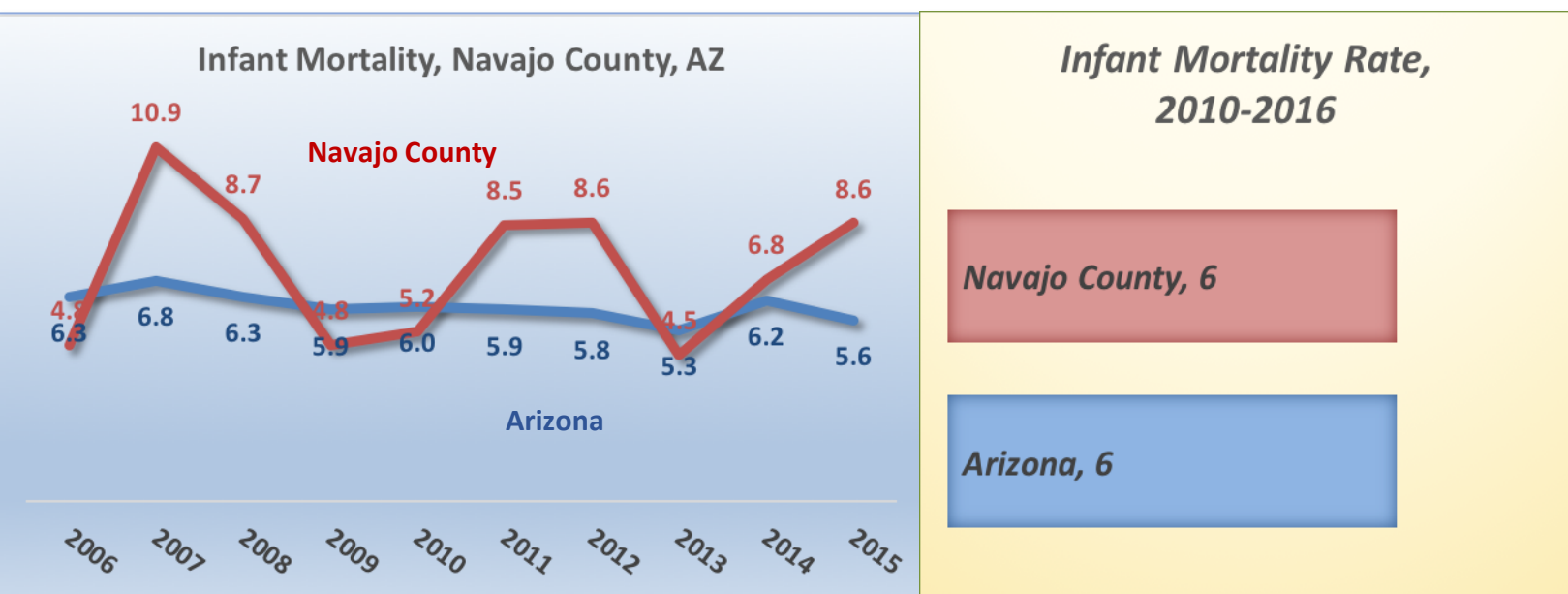
The more
**PRENATAL CARE
VISITS**



a pregnant woman has, the more
likely her infant is to be a
**HEALTHY BIRTH
WEIGHT**

When infants are born to county residents, the health indicators tend to be positive. As shown on the previous page, Navajo County is below or near the Healthy People 2020 ideal goals for pre-term, very low birth weight, and low birth weight births.¹³² All of these measures are signs of an infant's health. Again, increasing prenatal care, especially early in the pregnancy, can help to reduce pre-term and low birth weight births. As shown above, the more visits that were made for prenatal care by pregnant women in Navajo County, the more likely their infants were to be of normal birth weight.

The infant mortality rate is neither particularly high nor particularly low, although of course the ideal rate would be to have no infant deaths. Navajo County's infant mortality rate is near the average for the state and other counties in the state. In the period from 2010 to 2016, the infant mortality rate was 6.0 per 1,000 live births, which was the same as the Arizona rate of 6.0, and close to the rates for 12 of the 15 Arizona counties. (Yuma, Apache and Gila were higher than the rest of the counties.) In Navajo County, the rate has fluctuated from a low of 4.5 infant deaths per 1,000 live births in 2013 to a high of 10.9 deaths per 1,000 live births in 2007. It's not unusual for these rates to fluctuate year to year given the relatively small number of births and deaths in the county in any given year.¹³³

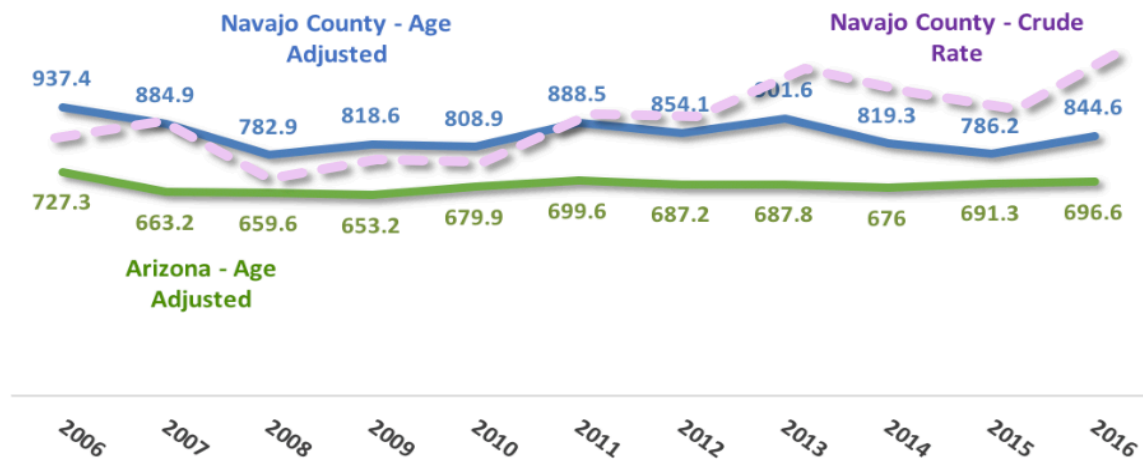


Deaths and Causes of Deaths

The number of deaths overall in Navajo County has been increasing over the past decade, as shown by the dashed line in the chart below. However, this is due more to the population aging than to an actual cause of more deaths. As shown in the chart below, when adjusted for age, the death rate per 100,000 residents (the blue line) has remained roughly the same over the eleven-year period. However, in every year of this period, the death rate was higher than Arizona's rate, even when both are adjusted for the age of the population.¹³⁴

The leading causes of death help to identify the most important health issues in Navajo County. As shown in the chart below, the most frequent causes of death in Navajo County were cardiovascular disease and cancer -- causes that most often occur among the elderly. The rates

Crude and Age-Adjusted Death Rate per 100,000 Residents



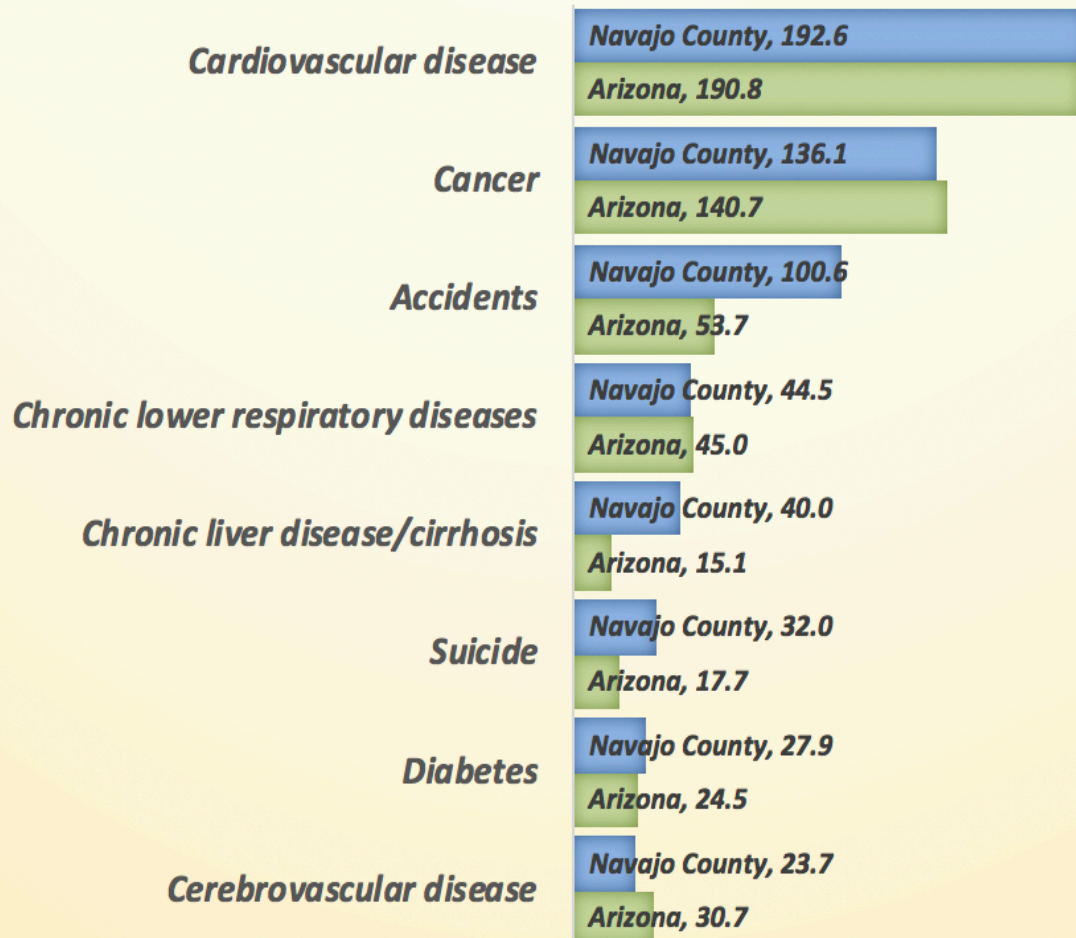
for these conditions were similar to the rates for Arizona.¹³⁵ Navajo County had lower rates of Alzheimer’s disease and cerebrovascular disease (such as stroke) than did Arizona. Where Navajo County rates exceeded Arizona rates are in other categories - categories that could be considered preventable deaths.

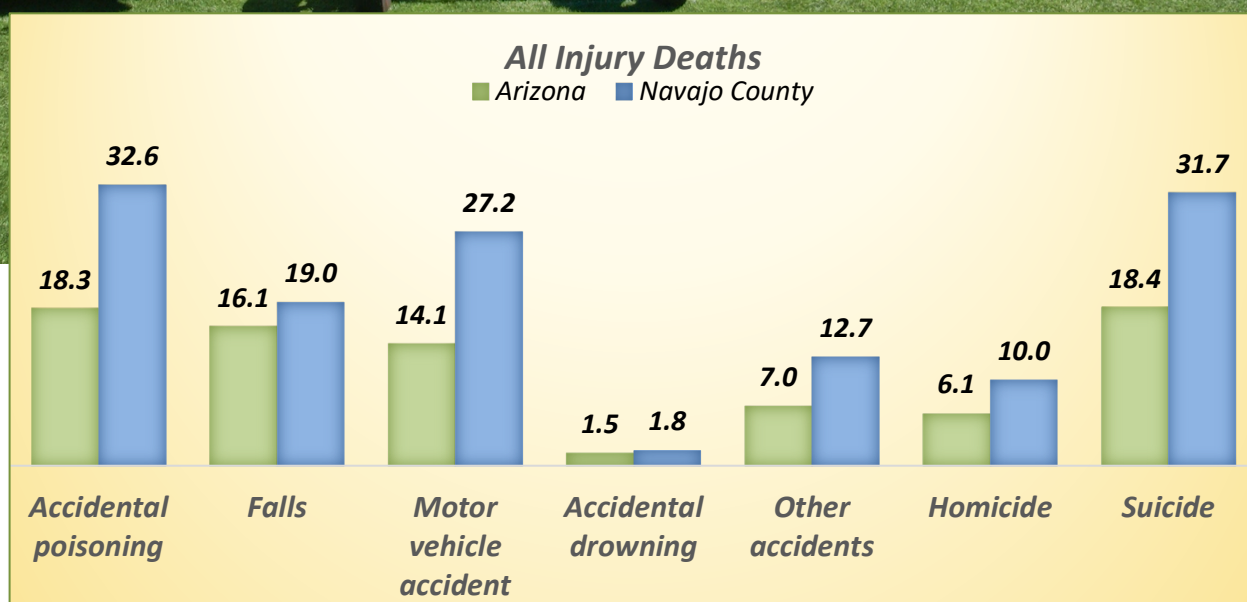
The most striking finding is that mortality rates in Navajo County are particularly high for accidents, alcohol and drug-induced deaths, and suicide. This includes the following figures:

- Accidents were the third leading cause of death and accounted for almost twice as many deaths in Navajo County as they did in Arizona as a whole.
- Alcohol-induced deaths were three times as common in Navajo County than in Arizona.
- Suicide was the sixth leading cause of death and was almost twice as high in Navajo County than in Arizona.

The third leading cause of death, accidents, includes a number of different causes. Within the category of accidents, accidental poisoning and motor vehicle accidents were the most common, followed by falls. “Accidental poisoning” is unintentional ingestion of drugs, alcohol, or other substances that can cause death. Most of these are overdoses and some may be suicides that could not be identified as suicides due to lack of evidence. The rate for poisoning and motor vehicle accidents were much higher than for Arizona as shown in the chart. Other causes in the injury category, such as suicide and homicide, are much higher than for Arizona.¹³⁶

**Leading Causes of Death, Age Adjusted,
Navajo County, AZ, 2016**

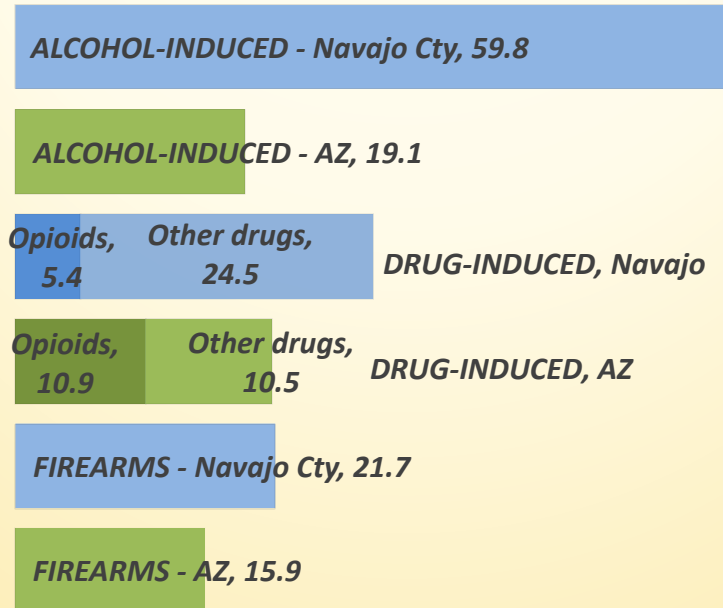




Many deaths, across many categories, involve alcohol, drugs or firearms. For example, a suicide, homicide, or accidental injury might have occurred with a firearm. Alcohol or drugs may be involved with a motor vehicle accident, chronic liver disease/cirrhosis (the 5th leading cause of death in the county), a fall, or other types of deaths. As shown in the chart below, alcohol-induced deaths were very high for Navajo County – three times the rate for Arizona as a whole.¹³⁷ Drug-induced deaths and firearms deaths were somewhat higher but not as much as alcohol-induced deaths. It is important to note that the drug deaths were less likely to be due to opioids in Navajo County when compared to Arizona.

The fact that Navajo County loses so many lives to causes such as suicide, homicide and motor vehicle accidents means that many years of potential life are lost to these preventable deaths. Years of potential life lost are calculated by looking at all deaths that occurred before the age of

Alcohol, Drug, Firearm Deaths



70 and adding up the years that residents might have lived had they not died prematurely.

Navajo County has one of the highest rates in Arizona for years of potential life lost (12,000 years per 100,000 residents). This is almost twice as high as Arizona's rate (6,800 per 100,000 residents).¹³⁸

As discussed earlier in this report, Healthy People 2020 sets goals for healthy communities. Among these goals are rates for chronic disease deaths. Navajo County is faring quite well toward

these goals by meeting or bettering goals for most cancers, cancer overall, and chronic heart disease. Progress can still be made on chronic lower respiratory deaths and particularly diabetes-related deaths.

Illnesses and Hospital Visits

The reasons for hospital visits are varied and similar to the causes of death. For example, there are many hospital visits for injuries, one of the leading causes of death in the county. In the hospital data, there were several categories associated with injuries, including superficial injuries, contusions (such as bruises and hematoma), sprains, and open wounds. As shown below, many emergency room visits (about 50%) were unspecified in 2016, so the total percentage was not high for any one cause. That said, however, even 5% of ER visits is around 2,000 visits. For

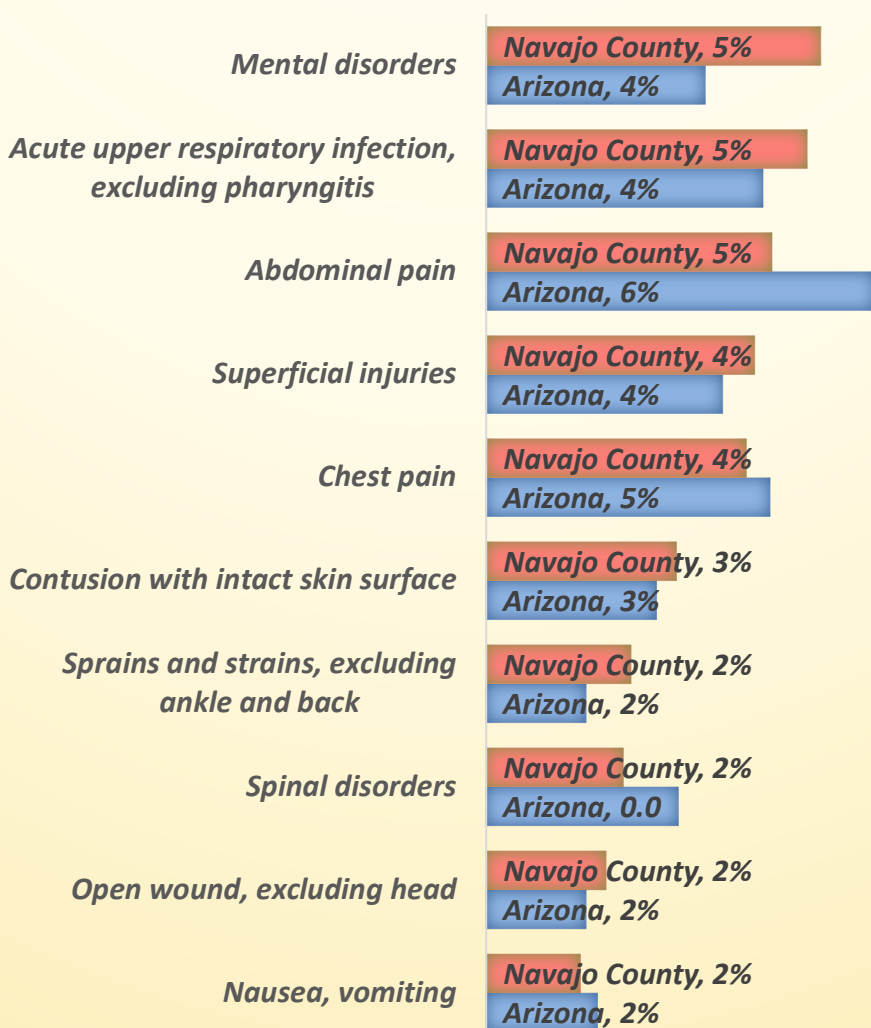
There were

12,000

Years of potential life lost due to
PREVENTABLE DEATHS
in the county



Leading Diagnosis Groups Emergency Room Visits, 2016 (Primary Diagnosis)



example, 5% of visits due to mental disorders in 2016 represents 2,037 visits to the emergency room for reasons in which mental disorders were the primary diagnoses. In addition to mental disorders, the other leading reasons for ER visits were upper respiratory infections, such as colds or sinusitis, abdominal pain, and chest pain.¹³⁹

The chart to the left shows the primary diagnosis associated with each ER visit. For several conditions, there is additional information about how often a condition is diagnosed as a primary diagnosis or a secondary diagnosis or a tertiary diagnosis, and so on. For example, as mentioned earlier, there were 2,037 visits with mental disorders as the primary diagnoses (5% of total visits). However, there were also 7,433 *additional* ER visits in which a

mental disorder was not the primary diagnosis, but a mental disorder was the subordinate or non-primary diagnosis. This is a total of almost 9,470 visits in which a mental disorder was the primary or a subordinate diagnosis (25%) of all emergency room visits. For diabetes, this number was 3,483 ER visits in which diabetes was part of the diagnosis.¹⁴⁰ This means that diabetes was part of the diagnosis for 10% of all visits.

The chart below shows diagnoses for inpatient stays at hospitals in Arizona and Navajo County. The patterns are very similar for the state and county, with the most frequent stays being for



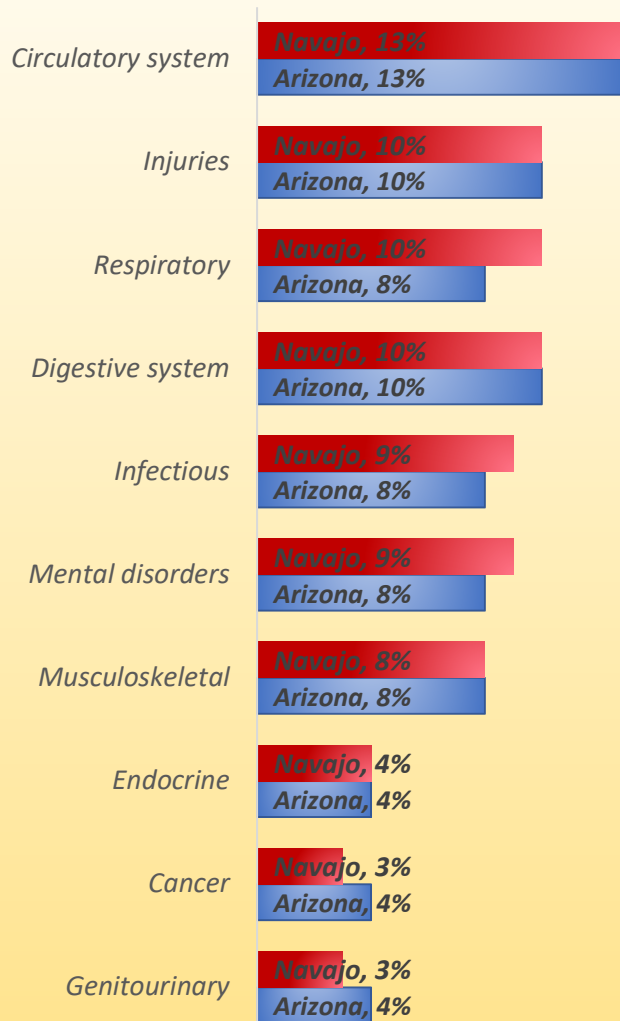
In 2016, over

9,000

emergency room visits
involved a

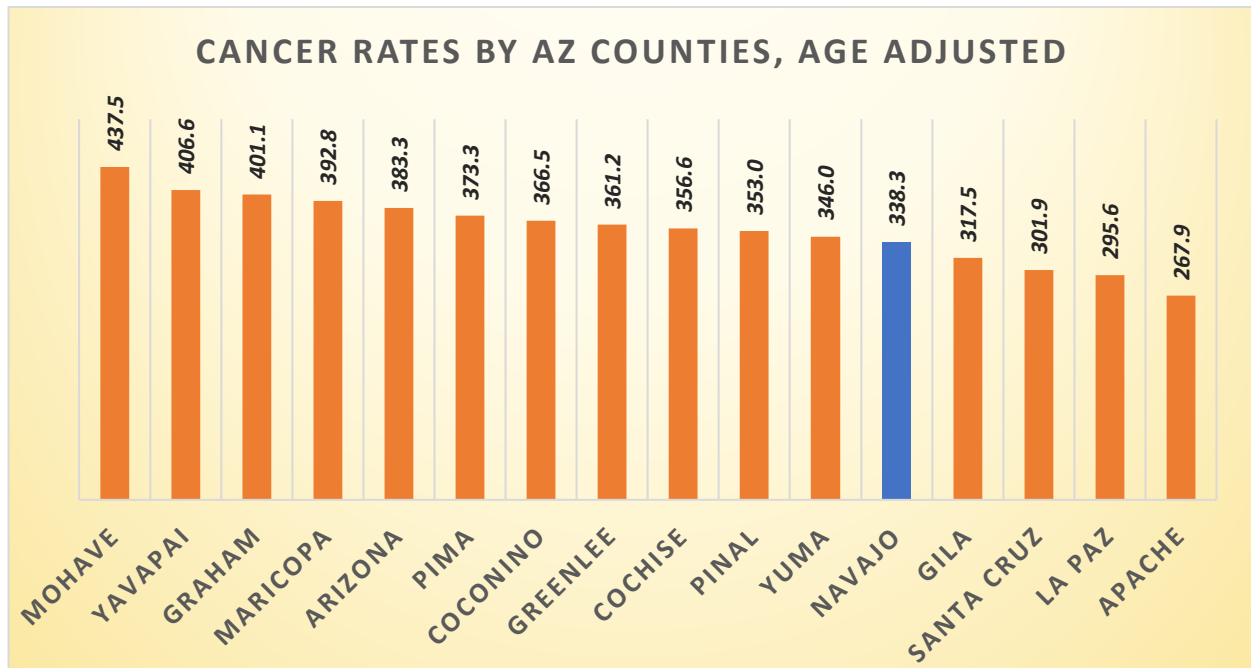
MENTAL DISORDER

Inpatient Discharges by Diagnosis

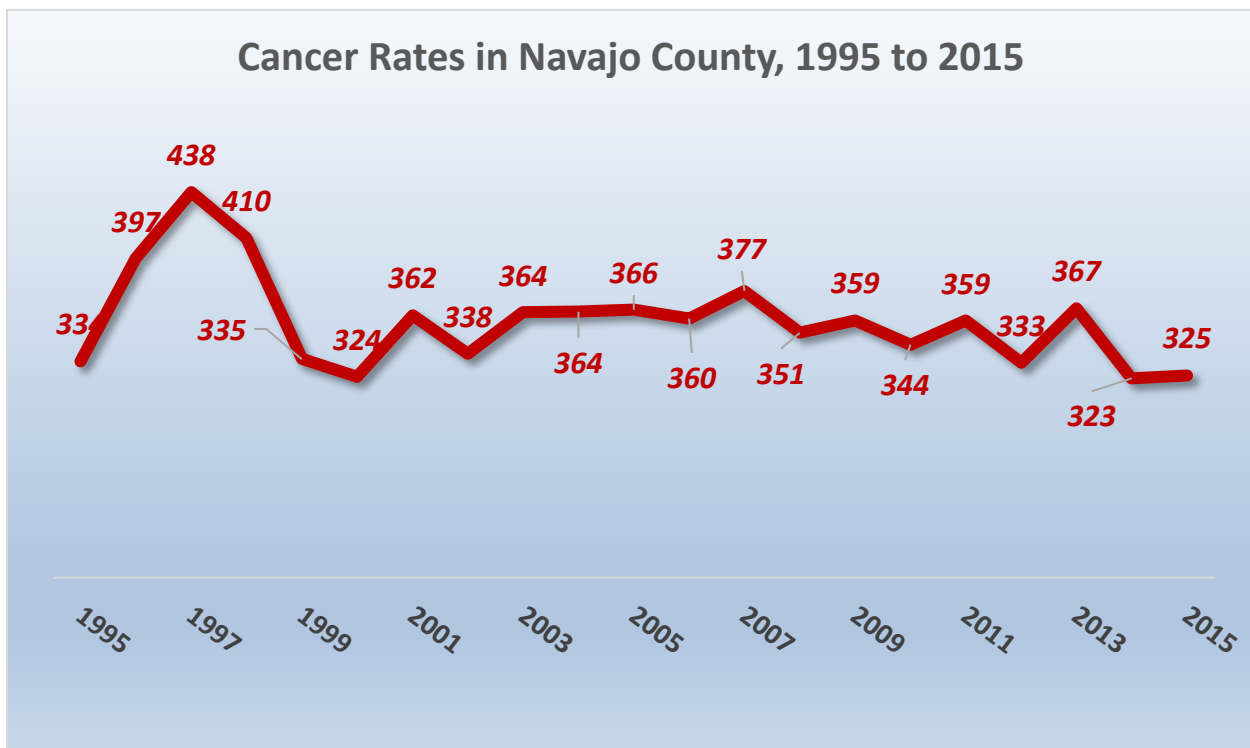


diseases of the circulatory system (e.g. heart disease) and the digestive system. Ten percent of 2016 visits were to injuries and poisoning and an additional nine percent were for mental disorders, both common themes in the other data findings. The chart above divides the hospital stays into broad categories of diagnoses. The mental disorders category includes: psychoses (alcoholic and/or drug psychoses, schizophrenic disorders, manic-depressive disorders) - 6% of total stays; neurotic disorders (anxiety states, depression, drug dependence, nondependent abuse of drugs, alcohol dependence syndrome) - 3% of total stays. Diabetes stays were 2% of the total. Under diseases of the circulatory system are heart disease (8%) and cerebrovascular disease (2%).¹⁴¹

The Arizona Department of Health Services maintains a cancer registry of all diagnosed cases of cancer in Arizona. This includes cancer illnesses that result in death (discussed earlier in this chapter in the mortality section) as well as cases in which



the patient survives. As mentioned earlier, Navajo County had a relatively low death rate due to cancer, at least compared to Arizona and the Healthy People 2020 goals.¹⁴² The same is true for incidence of new cancer cases listed in the Cancer Registry, as shown above. Navajo County had the 11th highest cancer rate among Arizona counties, making it among the five lowest rates in the state.¹⁴³



The cancer rate has remained relatively steady for two decades. As shown in the chart above, the rate of newly diagnosed cancer has been between 320 and 380 each year since 1999. The one exception is a three-year period that included 1996, 1997, and 1998. There was a notable peak in rates in 1997.¹⁴⁴ This increase may have been due to cancer among people living with HIV and AIDS. People living with HIV/AIDS are more susceptible to “AIDS defining cancers” such as Kaposi sarcoma or non-Hodgkin lymphoma as their immune systems cannot resist the viral infections that cause these cancers. When “drug cocktails” (combination antiretroviral therapies or cARTs) were introduced in the mid-1990s, the rate of these cancers decreased dramatically as the drugs boosted the immune systems of patients. There is still a higher incidence of cancer among people living with HIV/AIDS than among those who do not have the condition, but it is not as pronounced as it once was.¹⁴⁵

The leading types of cancer in Navajo County match the leading types in the state, but at lower rates, as shown below. Breast, lung, prostate and colorectal cancer were the top four cancer diagnoses for Arizona as well as for Navajo County. At 42.2 diagnoses per 100,000 female residents, the rate of breast cancer in Navajo County was more favorable than the rate for Arizona (59.7). The lung and bronchus cancer rate at 36.3, which was lower than the state rate

Most common types of cancer diagnosed in Navajo County

Breast – 42.2
 Lung and Bronchus – 36.3
 Prostate – 33.5
 Colorectal – 31.4
 Kidney/Renal Pelvis – 18.2
 Thyroid – 17.8
 Cutaneous melanoma – 13.7
 Non-Hodgkin’s Lymphoma – 13.6



of 49.4. The county rates for prostate (33.5) and colorectal (31.4) were much closer to, but still slightly below, the state rates of 36.8 and 33.6. And, cutaneous melanoma was fifth on the list for Arizona at 21.0, but lower for Navajo County at 13.7. The only types of cancer for which the county has higher rates than the state were kidney/renal pelvis (18.2 vs. 15.5 for the state) and thyroid (17.8 vs 15 for the state).¹⁴⁶



Illnesses from Mosquito, Tick and Flea Bites Increasing in the U.S..

"Illnesses from mosquito, tick, and flea bites have tripled in the U.S., with more than 640,000 cases reported during the 13 years from 2004 through 2016. Nine new germs spread by mosquitoes and ticks were discovered or introduced into the United States during this time."

-- Centers for Disease Control and Prevention

Communicable Diseases

The number and types of communicable diseases diagnosed in Navajo County residents has risen over the years. This includes vector-borne diseases – those that spread pathogens through mosquitoes, ticks, fleas or other animals. In May of 2018, the Centers for Disease Control issued a press release drawing attention to diseases that are transmitted to humans via tick, flea, or mosquito bites. An excerpt is shown above.¹⁴⁷ These illnesses include Zika virus, Rocky Mountain Spotted Fever, and even the plague (*Yersinia pestis*), which is endemic to Northern Arizona and is spread by fleas who live on rodents or other animals. The NCPHSD periodically monitors prairie dog sites to watch for a die-off that might indicate an outbreak of plague. When this occurs, the NCPHSD searches for infected fleas and notifies the public if any are found to be infected with plague.

Unlike the trend for the U.S., Navajo County is not experiencing a dramatic increase in vector-borne diseases, as shown in the table below, but there have been a wider variety of vector-borne disease cases identified, including diseases that can be deadly if not treated, such as

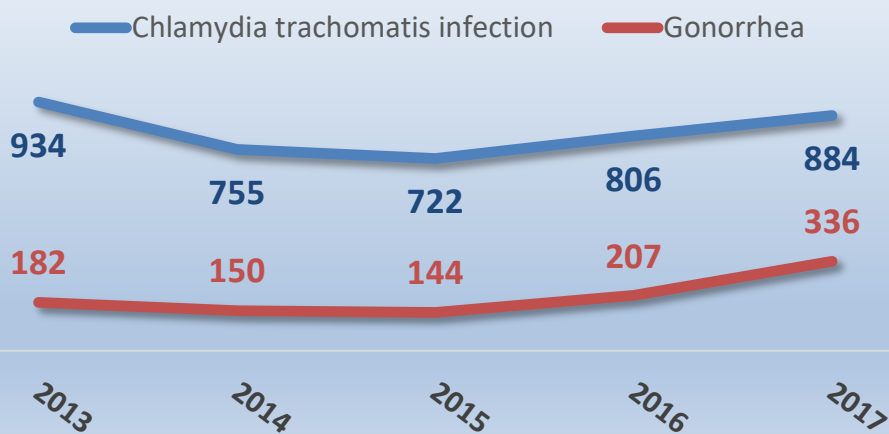
Selected Communicable Diseases, 2013-2017, Navajo County Residents						
	2013	2014	2015	2016	2017	Grand Total
Sexually transmitted infections						
Chlamydia trachomatis infection	934	755	722	806	884	4,101
Gonorrhea	182	150	144	207	336	1,019

Syphilis	7	13	10	10	21	61
HIV Infection and related disease	13	1	6	11	NA	31
Gastrointestinal diseases						
Campylobacteriosis	27	30	46	47	93	243
Shigellosis	26	27	6	34	99	192
Salmonellosis	37	37	54	27	27	182
Vaccine-Preventable Diseases						
Influenza virus	412	284	164	507	499	1,890
Hepatitis B	4	7	9	14	21	56
Pertussis	14	2	9		14	39
Varicella (chickenpox)		5	4	7	6	22
Hepatitis A	1	2	4	1		8
Vectorborne/Zoonotic Diseases						
Plague			1		1	2
Rocky Mountain spotted fever	8	1		1	2	12
Tularemia				2	1	3
Hantavirus infection		1				1
Other Diseases						
RSV	266	92	171	91	187	808
Coccidioidomycosis (Valley fever)	33	26	62	33	49	209
Hepatitis C	49	83	57	40	40	269
Haemophilus influenzae, invasive disease	7	5	7	11	10	40
MRSA	10	14	8	20	26	78
Streptococcal Group A, invasive	10	11	15	10	24	70
Streptococcus pneumoniae, invasive	29	39	36	37	32	173
Tuberculosis	3	1	1		3	8
Grand Total	2,079	1,593	1,544	1,930	2,413	9,591
Influenza and norovirus figures are understated as many cases are not reported.						

plague and tularemia. In addition, there is hantavirus present in Navajo County and this disease has no effective treatment. And finally, an outbreak of Rocky Mountain spotted fever, a disease spread by ticks (sometimes ticks living on domestic pets), affected eight Navajo County residents in 2013.¹⁴⁸

Perhaps the most important communicable disease issue in Navajo County is the rise in sexually transmitted diseases. The numbers of gonorrhea and chlamydia cases have been rising steadily

Gonorrhea and Chlamydia Numbers of Cases, Navajo County



after a low in 2014. Both the absolute numbers and the rate of these diseases is quite high. At 191 cases of gonorrhea per 100,000 residents in 2016, the rate of gonorrhea was 25% higher than Arizona's

rate (151) and the highest of all Arizona counties.¹⁴⁹ The chlamydia rate was even higher at 744 cases per 100,000 residents in 2016. This was the third highest county rate in Arizona.¹⁵⁰ In 2016 and 2017, the number of chlamydia cases jumped from 806 to 884.¹⁵¹ Assuming each infection represents one person during the year, that is almost 1% of the entire population of Navajo County that contracted the disease in 2017.

Navajo County has had mixed results when it comes to the Healthy People 2020 goals associated with "responsible sexual behavior."

The rate of

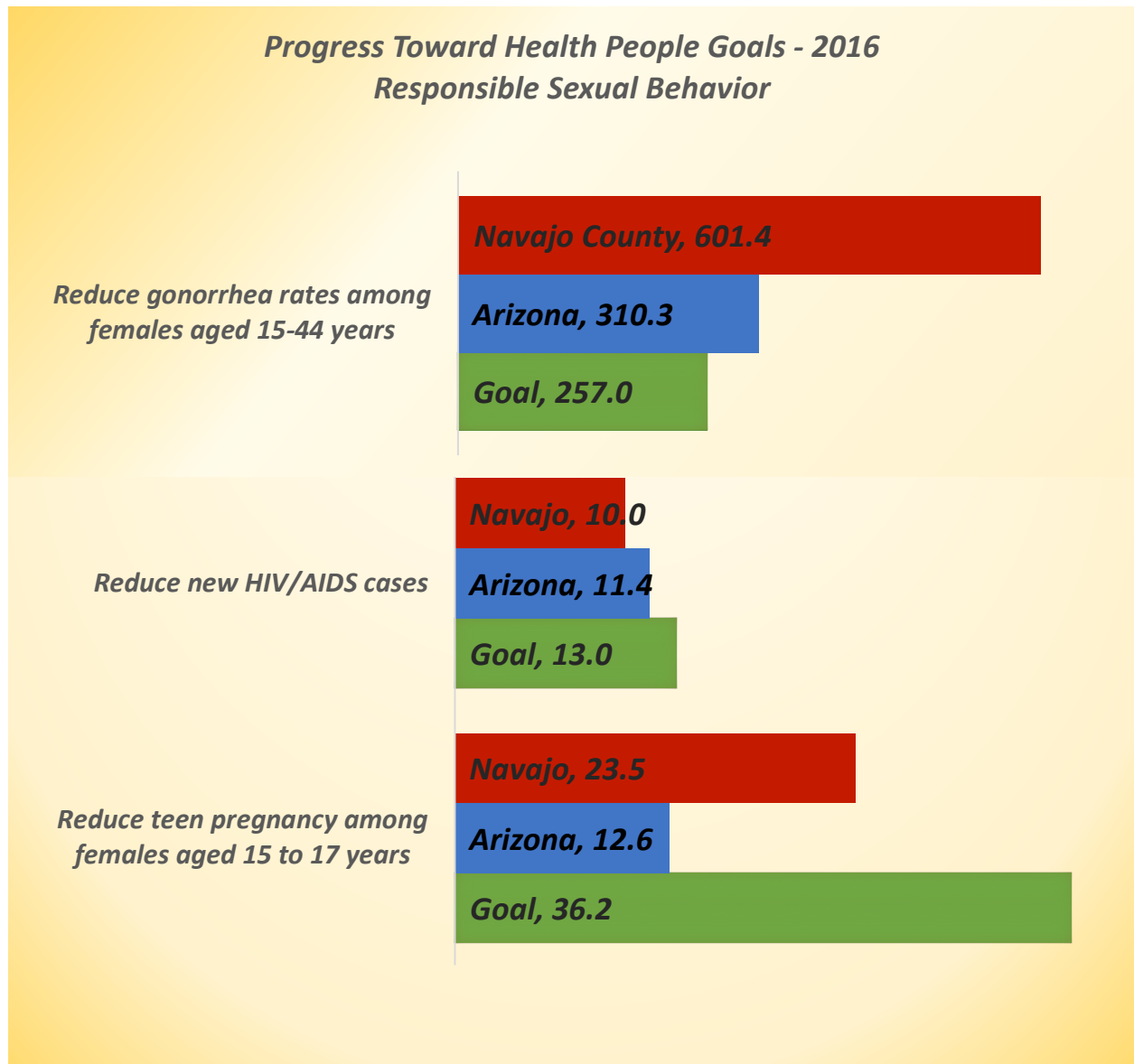


GONORRHEA

is 25% higher than

The rate for Arizona

As shown below, the rate of gonorrhea cases among females 15 to 44 years old is exceedingly high compared to both the Arizona rate and the Healthy People 2020 goal. However, Navajo County met the goals for new HIV/AIDS cases and teen pregnancy (among 15 to 17 year-olds), also shown below. Generally, these goals are quite ambitious and challenging to meet. Yet, the teen pregnancy rate was still higher than Arizona's in 2016 and could be improved.¹⁵²



Health Disparities III: Various

Previous chapters have described the health and social determinants of two independent communities within Navajo County: the Navajo Nation and Hopi. This chapter continues to examine health disparities by looking at health behaviors, factors and outcomes among various groups within Navajo County. Not all data are available for all groups and factors, so there is some variation between topics. And while we identify several groups with special needs at the beginning of this chapter, we will also identify additional groups throughout the chapter that are also at high risk – for example, accidents among younger residents.



Kids Today

“We live by a school...the kids being raised nowadays are so disrespectful...This new generation is very disrespectful, very disrespectful. People don’t know how to raise kids.”

“[There is a] lack of consistent support; encouragement, and discipline. Setting guidelines. Just – just encouraging our kids that they can be anything they want to be. But they just don’t have that consistent base of people doing that for them.”

-- CHA Focus Groups

Health Disparities: Resident Groups with Special Needs

In the CHA focus groups, the CHA survey and the epidemiological data, four groups were mentioned repeatedly and/or appeared frequently in the data:

- Seniors
- Children
- Individuals (adults and children) with special needs or disabilities
- American Indians

This section will cover the size of the first three groups and the needs among these groups. Some



11,816 children living in poverty in 2016.¹⁵³

Participants in the focus groups and residents who completed the survey expressed concerns about children. As shown in the orange panel below, focus group participants had much to say about the state of today's children – their reliance on technology and unhealthy foods, as mentioned earlier – or the lack of support they appear to receive from their parents. In the CHA Survey, respondents selected children as one of the groups whose needs were not fully met.

Sixteen percent of respondents said that the needs of children were “fully met,” 76% said “partially met,” and 8% said “not met at all,” suggesting that there is room for meeting more of the needs. Notably, when asked to select the most important health goals, residents chose “child abuse and neglect” the second most often, after the top choice of substance abuse. Child abuse and neglect was selected in the top 5 goals by respondents of all age, gender, and ethnic groups examined in the survey.

Seniors

Seniors make up a smaller percentage of the Navajo County population, but still are a sizable part of the community with unique needs. At 16% of the population, there are over 17,000

needs of American Indians have been covered in other chapters, but there will be additional data throughout the remainder of this chapter.

Children

As mentioned at the beginning of this report, Navajo County has many children and seniors relative to the number of people in the typical working age years (18-64 years old), creating a high dependency ratio for both groups. There are 30,298 children in Navajo County, a group that makes up 28% of the population and they live in 36% of the households. Unfortunately, 39% of Navajo County's children live below the federal poverty line. That was

11,816

Children were living in
POVERTY in Navajo
County in 2016.

seniors living in Navajo County. One survey showed that there was a person 60 years old or older in approximately 45% of all county households.¹⁵⁴ According to several sources, there are reasons to be vigilant when it comes to seniors. First, 16% of seniors in Navajo County are living in poverty¹⁵⁵ and this can present difficulties for seniors - ranging from not being able to seek healthcare to not being able to buy groceries. Second, according to CHA Survey respondents, seniors have many unmet healthcare needs – 13% of respondents said that seniors’ needs were “fully met”, 75% said “partially met,” and 12% said “not met at all,” suggesting, as was the case for children, that there is a plenty of room to meet more healthcare needs for seniors.

Caring for Seniors

“My sister is 95 and her kids don’t live here so, you know, I’m kind of the one who sees to her. And I have to take her to emergency quite a bit. She’ll start feeling bad on Tuesday, and then on Saturday will call me and say, you know, ‘Oh, I really feel bad now.’ So, we have, there’s no other place to go.”

-- CHA Focus Group



Third, members of the community shared anecdotes about their concerns for the elderly. The participant

quoted in the orange panel above said that she sometimes needs to take her elderly sister to the emergency room for care. She also said that her sister sometimes “gives up” because the wait is so long, and the 95-year-old returns home without care. A survey respondent was concerned about seniors having to travel for care. This respondent said, “We need to attract and retain rheumatologists for our area. Constantly traveling to Flagstaff, Tucson or Phoenix is NOT a viable option, especially for senior citizens.” Another respondent said they would like to see transportation for seniors. They asked, “AHCCCS people have transportation, why not the seniors?”

Individuals with Disabilities

The number of individuals with disabilities living in Navajo County is significant. Eighteen percent of the population or almost one in every five residents was living with a disability in



2016 and this is higher than the rate for Arizona (13%). As shown below, this represents almost 19,000 residents. Disabled individuals who are white made up 9% of the total population of the county. American Indians with disabilities were 7%. Most individuals with disabilities were 35 years or older compared to those under 35 years old.¹⁵⁶

In the U.S. Census data shown below, persons with disabilities are defined very specifically based on a series of questions asked in the Census Questionnaire. The Census defines “disability” as:

A long-lasting physical, mental, or emotional condition. This condition can make it difficult for a person to do activities such as walking, climbing stairs, dressing, bathing, learning, or remembering. This condition can also impede a person from being able to go outside the home alone or to work at a job or business.¹⁵⁷

Individuals with Disabilities, Navajo County, 2016				
	Number of individuals		% of Total Population	
	Navajo County	Arizona	Navajo County	Arizona
Total individuals with disabilities	18,958	833,586	18%	13%
Male	9,443	413,296	9%	6%
Female	9,515	420,290	9%	6%
American Indian	7,485	39,125	7%	1%
Hispanic	1,477	180,433	1%	3%
White, not Hispanic	9,290	554,574	9%	8%
Other races	706	59,454	1%	1%
Under 5	79	3,270	0%	0%
5 to 17 years old	1,482	58,026	1%	1%
18-34	1,960	90,044	2%	1%
35-64	7,784	316,654	7%	5%
65 and older	7,653	365,592	7%	6%

There are other definitions for individuals with various kinds of special needs. When these definitions are used, there is often a higher percent of residents who have special needs, even if

In more than **56%** of county households, there is a person with a

CHRONIC HEALTH CONDITION



What a Wonderful World

"Kids have a disability disease and more kids have health issues. Sometimes they cannot find a good community to live. I've seen children have PDD [pervasive developmental disorder], oxygen, so we have to think about what a good community is."

-- CHA Focus Groups

they don't meet the strict definition of "individual with a disability" that the U.S. Census uses. For example, the NACOG Survey asked respondents in Navajo County if there was a person in the household who "had one or more chronic health conditions." There were 56% of households that met this criterion. There were 43% with at least one person with "physical, mental and/or emotional condition limiting ability to do errands" in the same survey.¹⁵⁸ So, whether it is a disability or a chronic health condition, or some other issue, there are many individuals and households in the county that have special needs.

Individuals with disabilities were seen by CHA Survey respondents as particularly in need. "Individuals with disabilities" had the highest average score for unmet need, second only to "individuals without healthcare insurance." Nine percent of respondents said the needs of individuals with disabilities were "fully met," 74% selected "partially met," and 17% said "not met at all." Various comments by survey respondents and focus group participants illustrate the issue. One survey respondent said, "I have a child with sensory processing disorder and



anxiety/depression. There is not adequate resource here in the county to deal with this, so we make many trips to Phoenix." A focus group respondent talked about observing children with disorders, as shown in the orange panel above.

As indicated by these remarks, many of the individuals with special needs are children. In the CHA Survey, 43% of

households had a child living in the home. There were 21% of the respondents who agreed that in their household there was "at least one person under the age of 18 who has a chronic physical, developmental, behavioral, or emotional condition such as autism, poor eyesight (needs eyeglasses), etc." This means that there is a special needs child in one out of every five Navajo County households.

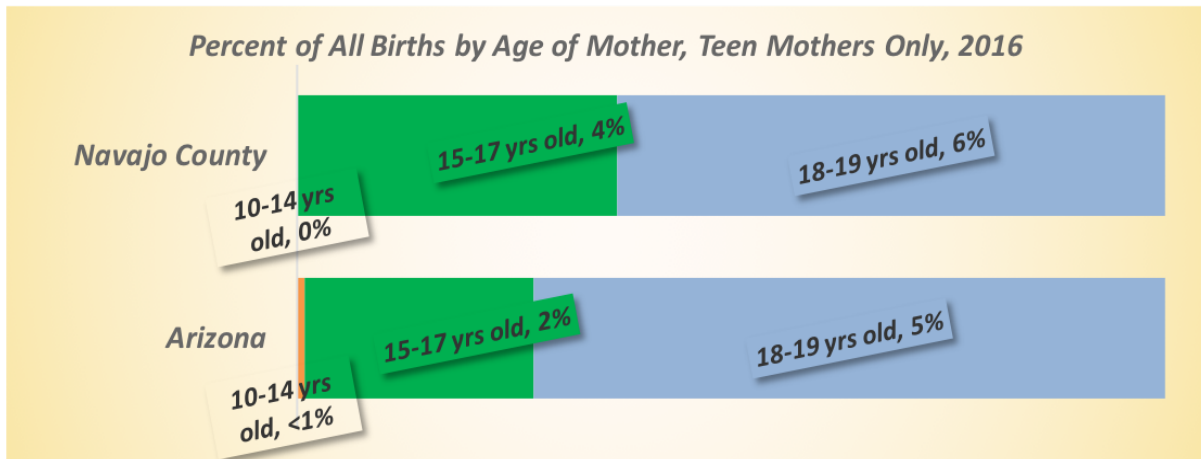
Further evidence of the prevalence of special needs children are the following¹⁵⁹:

- 31% of infants were born with medical risk factors in 2015.
- About 1% of the children under age 1 in Navajo County had an Individualized Family Service Plan (IFSP) to address developmental delays or other disabilities. Approximately 3% of the children under age 3 in Navajo County had an IFSP (2015).
- In 2015, 11% of children 0 to 5 years old in Navajo County were not covered by health insurance - 1056 children.
- In 2015, 196 children aged 0 to 3 years old were referred to the Arizona Early Intervention Program (AZ-EIP) and 92 of these children received services. In order to qualify for AZ-EIP, a child must have an “established condition (a condition that has a high probability of resulting a developmental delay such as epilepsy, autism, cerebral palsy, chromosomal abnormality, etc.) or a significant developmental delay (50% delay in one or more areas/a standard score of 70 or below on a norm referenced tool)”¹⁶⁰
- An estimated 10% of students in kindergarten through 12th grade had an individual education plan (IEP) in the 2017/18 school year. This means that one in ten students requires special instruction.
- In 2016, 80 children entered out-of-home (foster care) through the Department of Economic Security.
- The Arizona Division of Developmental Disabilities made 1,139 service visits to 23 children in 2015. This was down from 2300-2400 visits in each of the prior years.
- In 2015, 343 children were eligible for a Department of Economic Security (ADES) subsidy. 86% of them received the subsidy and 14% (43 children) were waitlisted for a subsidy.

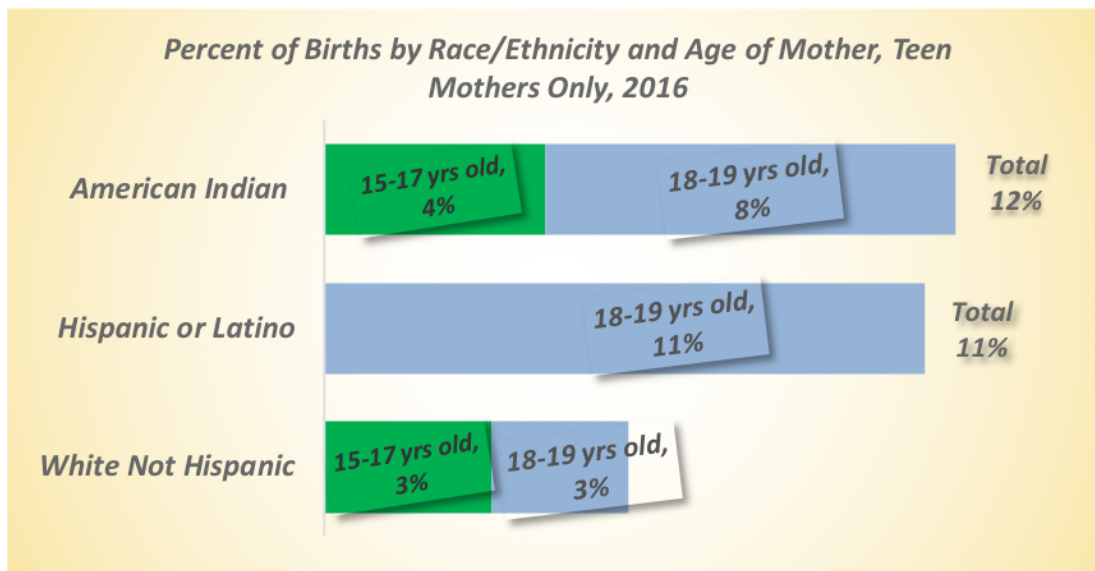
More than
1,000
County children were not
covered by **health**
insurance in 2016.

Health Disparities: Births

Births to teen and unwed mothers tend to predict poorer health outcomes for infants, so public health experts study these factors. In Navajo County, 10% of all births were births to teen mothers. Most of the births (6% of all births) were to women 18-19-years-old and 4% were to



women 15-17-years-old as shown above. There were no births to mothers under the age of 15. All of these figures are comparable to the percentages for Arizona, as shown above. In 2016, American Indian and Hispanic mothers were more likely to be teen mothers than were whites – 12% of infants born to American Indian mothers were teenagers, 11% of Hispanic mothers were teens, and 6% of white mothers were teens. However, the Hispanic mothers tended to be older teens - all were 18-19 years old - while there were 3% of white mothers who were younger teens (15-17-years old) and 4% of American Indian mothers who were younger teens.¹⁶¹



As with teen motherhood, American Indians tend to be more likely to be unwed mothers. As shown in the table below, 59% of all mothers giving birth in 2016 were unwed. Seventy-two percent of these unwed mothers were American Indian even though American Indian mothers made up 55% of all mothers giving birth that year. The reverse was true for white mothers who were 18% of the unwed mothers giving birth in 2016 while making up 34% of the total mothers

giving birth. When it comes to the educational level of the mother, 67% of unwed mothers had a high school diploma or less.¹⁶²

Births to All Mothers and Unwed Mothers by Race/Ethnicity, Education, 2016			
Navajo County			
	Number	Percent of all Births	Percent of All Unwed Mothers
Births to Unwed Mothers		100%	100%
Total		1,498	881
Race/ethnicity			
White non-Hispanic	162	34%	18%
Hispanic or Latino	84	11%	10%
American Indian or Alaska Native	631	55%	72%
Education			
High School/GED or less	588	53%	67%
Some College or more	287	46%	32%
Unknown	6	1%	1%

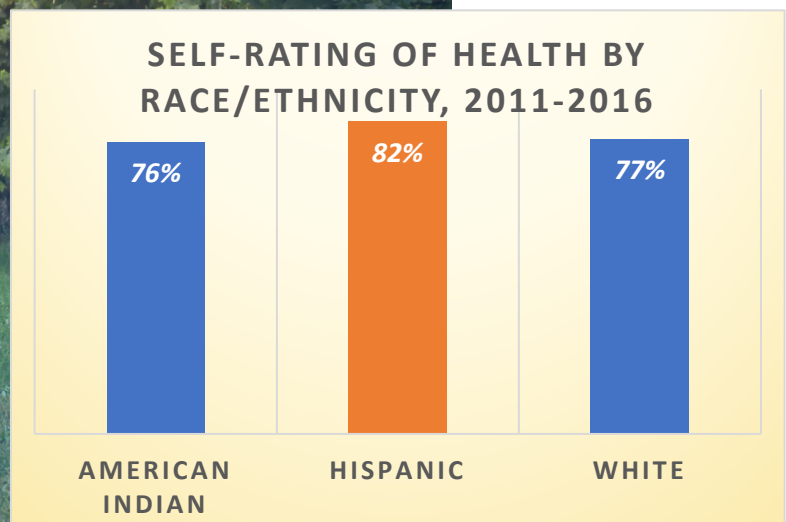
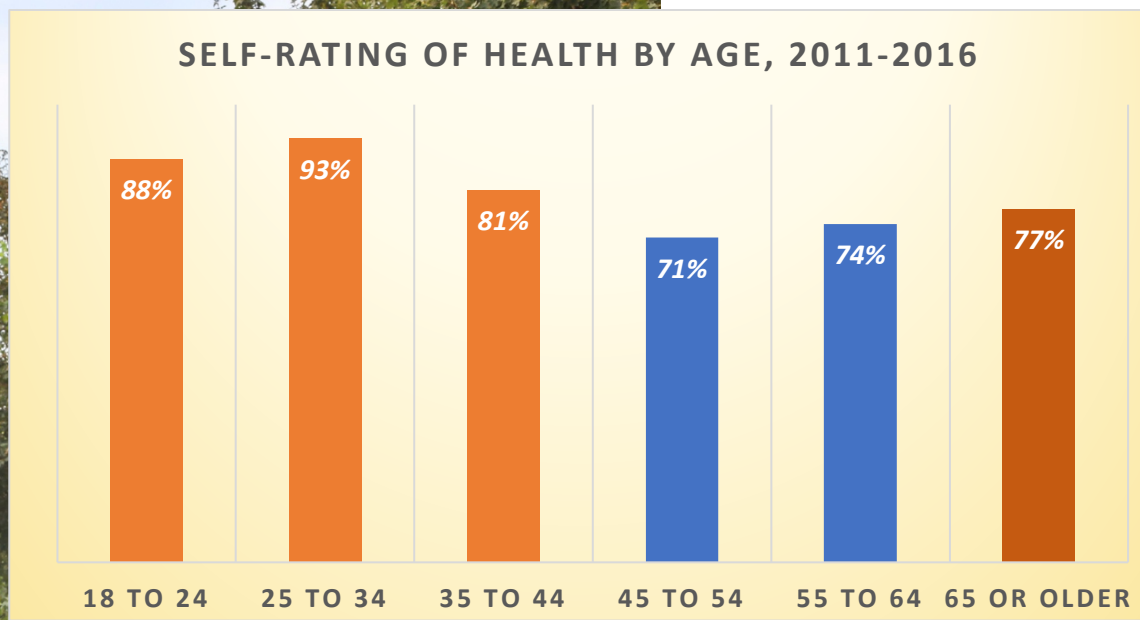


In the table below is a summary of newborn and maternal characteristics listed by specific communities. As was the case with information regarding the Navajo Nation earlier in this report, this chart shows information for the entirety of each of the tribes mentioned – not just those residents who reside in both Navajo County and on the tribal land. Teen pregnancy was highest in the White Mountain Apache Tribe (WMAT), Navajo Nation, and Winslow. Snowflake and Show Low were closer to the overall Arizona percentage. First trimester prenatal care was highest in Snowflake, Winslow, and Show Low and could be improved among the WMAT. Low birth weight births – a risk factor for infant health - were highest for the WMAT. Finally, the percent of unwed mothers varied by community with Snowflake and Show Low again being the lowest and all other communities being much higher than the state rate of 45%.¹⁶³

Selected Characteristics of Newborns and Mothers by Community, 2016						
	Percent of Total Births for Community					
	Total births	Mother 19 years old or younger	Prenatal care in the 1st trimester	No prenatal care	Low birth weight newborns	Unwed mother
TOTAL STATE	84,404	6%	69%	2%	7%	45%
HOPI TRIBE	117	10%	69%	*	6%	79%
NAVAJO NATION	1,390	12%	67%	2%	7%	77%
SHOW LOW	299	9%	73%	2%	8%	42%
SNOWFLAKE / HEBER	242	2%	72%	*	5%	24%
WHITE MOUNTAIN APACHE TRIBE	287	14%	48%	5%	14%	74%
WINSLOW	296	12%	73%	*	9%	64%
* Fewer than 6 individuals.						

Health Disparities: Quality of Life

In Navajo County, the younger you are the healthier you feel. Men and women were equally as likely to rate their health as good, very good or excellent (78% for women, 77% for men.) Self-ratings of health by race/ethnicity were very similar with Hispanics being just slightly higher than others. However, when it came to age, those under 34 were the most likely to rate themselves as being in good/very good/excellent health. Perhaps more surprising was that starting with the 55 to 64 age group, ratings got slightly *higher* with age.¹⁶⁴



While the majority of county residents had no days of poor mental health in a month, men, Hispanics, and older residents were the most likely to experience stable or good mental health. As shown above, 72% of men reported that on no days in the past month did they experience poor mental health. For women, this percentage was lower, at 62% reporting no bad mental health days. Hispanics and whites were more likely than American Indian residents to say they had no bad mental health days.¹⁶⁵

As shown on the previous page, the self-ratings of general health lessen as people age. As shown below, however, mental health does not follow the same pattern. The Behavioral Risk Factor Surveillance Survey asks respondents how many bad mental health days they had in a month. Those 65 and older had the highest percentage of respondents who had no bad mental health days, followed closely by the much younger 25 to 34-year-olds. The group least likely to have had poor mental health days was the 45 to 55-year-olds.¹⁶⁶

No Days with Poor Mental Health in Past Month

Total, 66%

Male, 72%

Female, 62%

American Indian, 60%

Hispanic, 70%

White, 67%

18 to 24, 57%

25 to 34, 68%

35 to 44, 60%

45 to 54, 53%

55 to 64, 64%

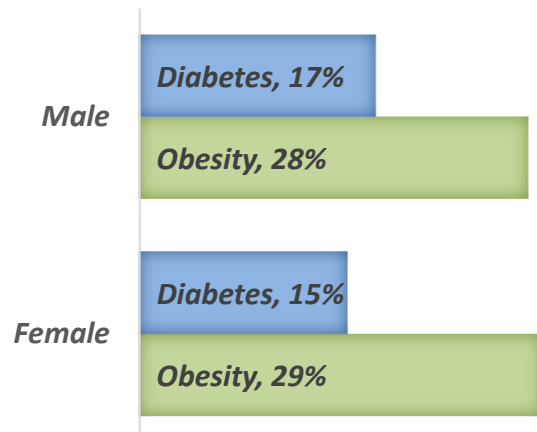
65 or older, 73%



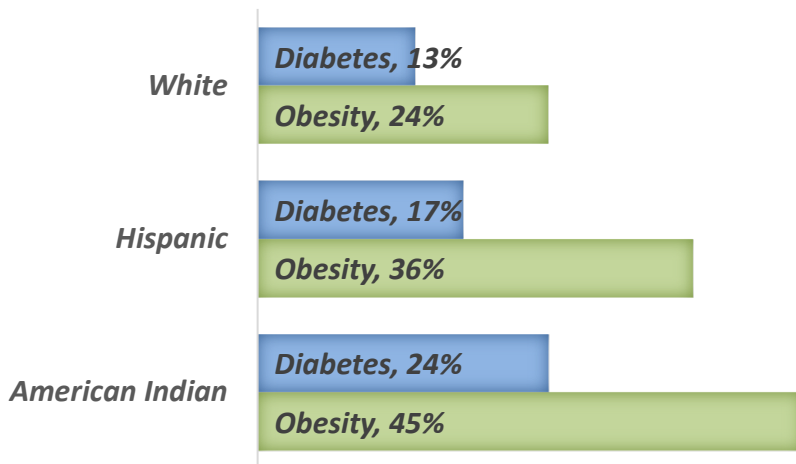
Health Disparities: Health Behaviors

Obesity, and the related condition of diabetes, differ by race/ethnic group as well as age in Navajo County, but there is little difference by gender. As shown in the chart below, about the same percentage of men as women are obese and have been diagnosed with diabetes in Navajo County. However, there are significant differences between whites, Hispanics, and American Indians when it comes to obesity and diabetes. American Indians are the most affected, followed by Hispanics and whites. When considering age, diabetes is more likely to be diagnosed the older an individual gets. Therefore, as shown on the next page, there were no respondents under the age of 25 who said they had been diagnosed with diabetes. But the percentage of those diagnosed rose with

Obesity and Diabetes by Gender



Obesity and Diabetes by Race/Ethnicity

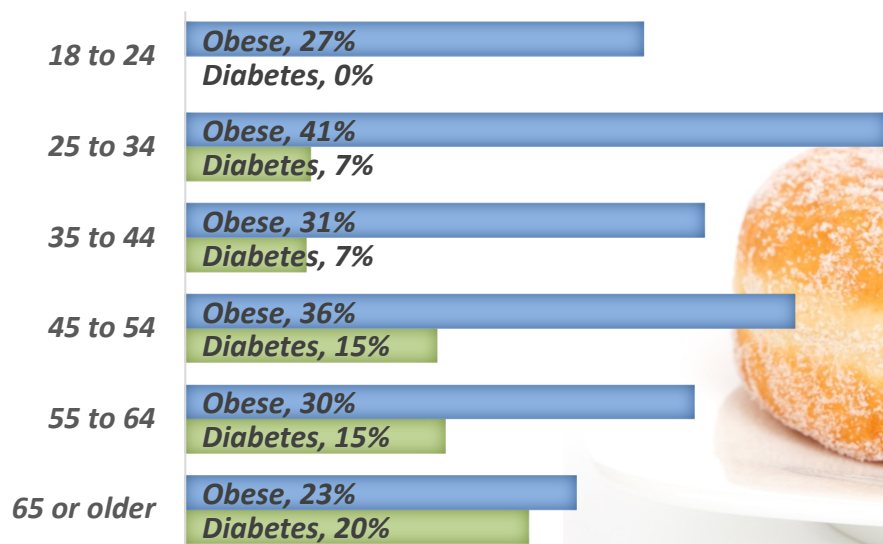


every age group. The age group with the highest rate - 65 and older - had 20% (1 in 5) who had diabetes. Obesity did not follow the same age progression. The youngest and oldest groups had the lowest percentages of individuals who were obese, while the 25 to 34-year-olds and to 45-year-olds had the highest at 41% and 36%, respectively.¹⁶⁷

Exercise and diet contribute to obesity and diabetes and these

healthy behaviors varied by group. While there was little difference between men and women (74% and 71%) when it comes to having any physical activity in the past month, there was a gap between the percentage of Hispanics (61%) and both American Indians and Whites (73% and 73%) for the same measure. Getting any physical activity lessened by age with 90% of the youngest residents (18-24 years old) most likely to get physical activity (90%) and stepping down for each age group to the lowest percentage (69%) for residents 65 and older.¹⁶⁸ While this may seem acceptable for exercise to fall off as a person ages, research has repeatedly shown that individuals of *all* ages can benefit from exercise and activity.¹⁶⁹

Obesity and Diabetes by Age Group





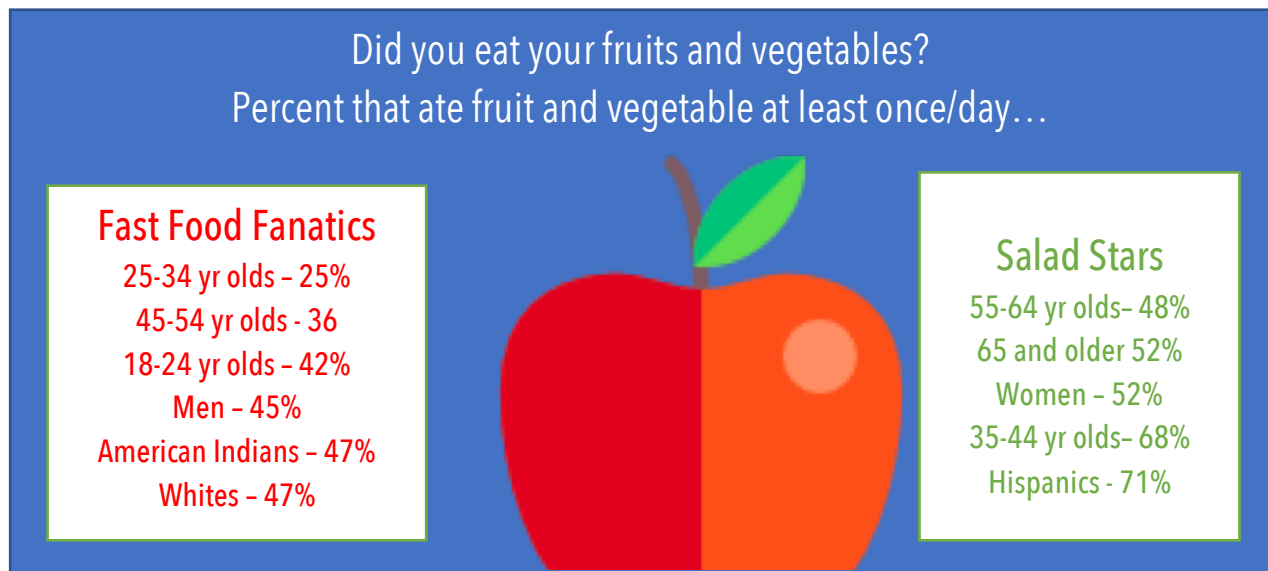
According to the Centers for Disease Control and Prevention (CDC), adults should get at least two hours and 30 minutes of moderate-intensity or 75 minutes of high-intensity activity each week. In addition, adults should do muscle-strengthening exercises on two or more days per week.¹⁷⁰

In Navajo County, men were more likely to have met

both of these guidelines (25%) than were women (17%). Young adults, aged 18 to 24 years old, were the most likely to have met

these guidelines with 45% meeting both requirements. The level of exercise decreased step-wise by age with only 15% of adults 65 and older meeting both guidelines.

Twenty-nine percent of American Indians met both physical activity guidelines, which was higher than the percentage for whites (19%), and well above the percentage for Hispanics (17%). Importantly, 67% of Hispanics did not meet either the aerobic or strengthening guidelines.¹⁷¹ Given the findings in the chapters regarding health disparities among Hopi and Navajo residents, it is not surprising that American Indian residents might be more committed to exercise than other groups given the efforts of both communities to address physical activity.

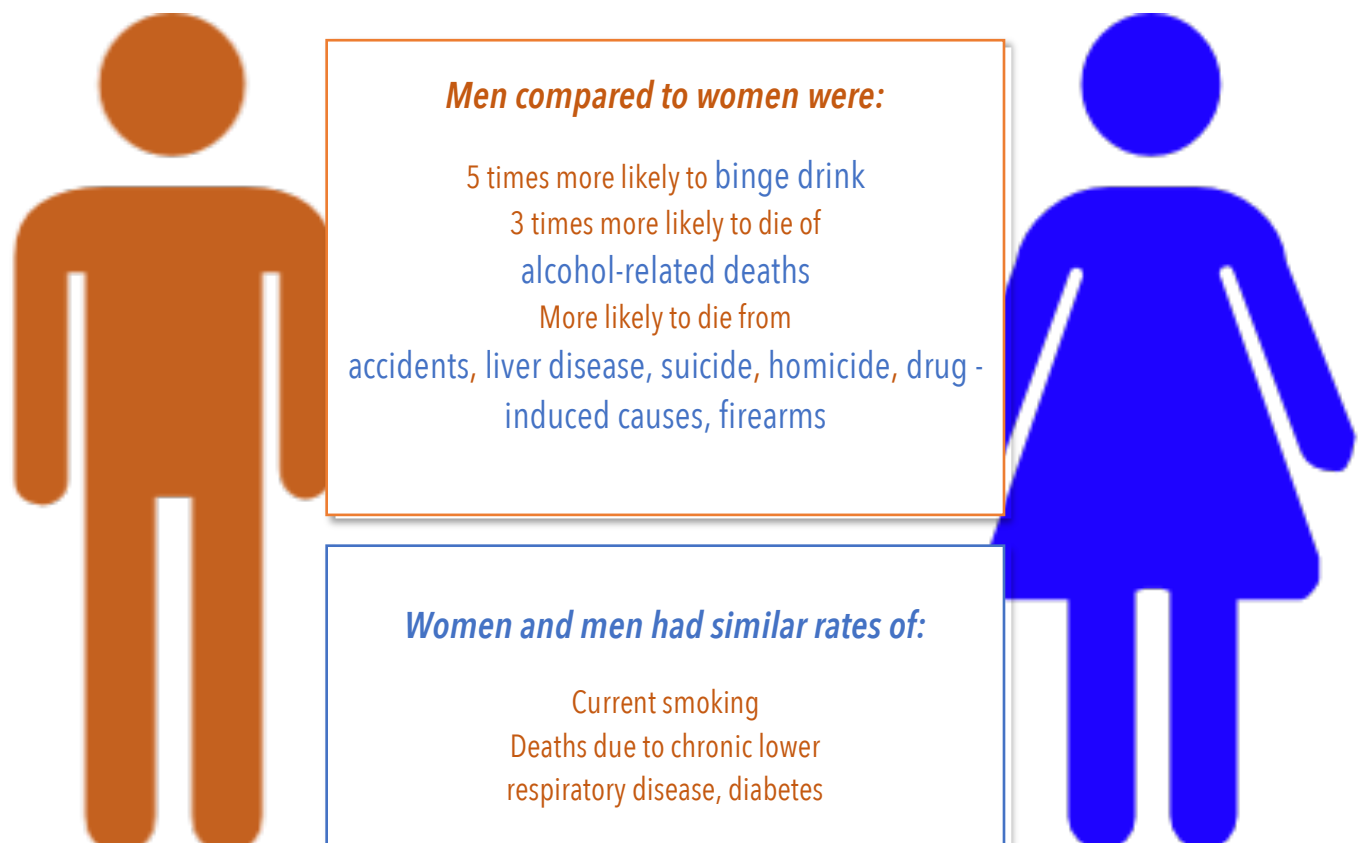


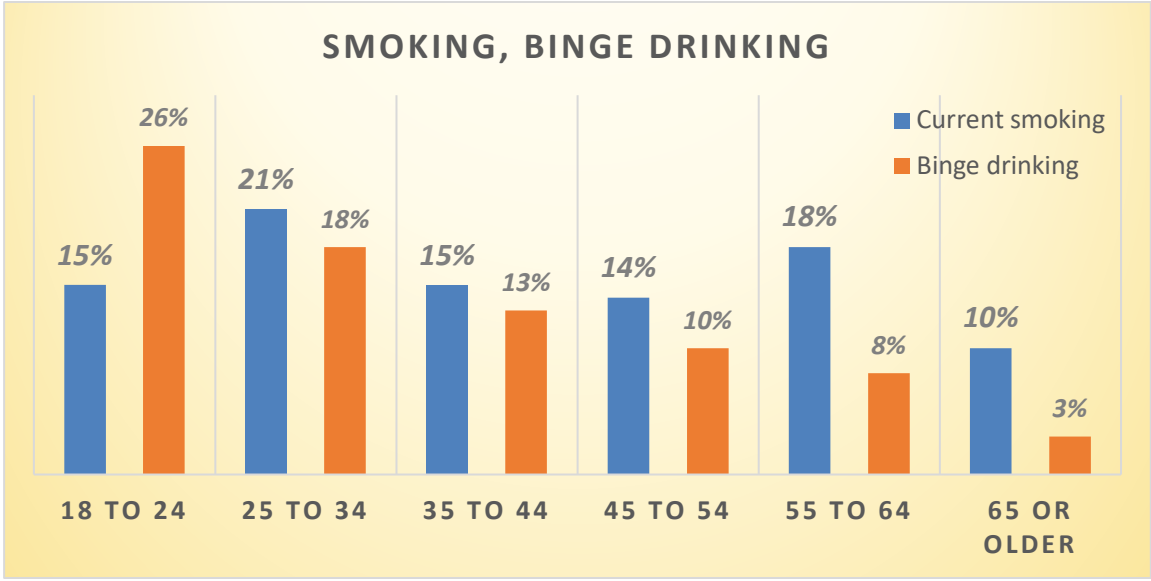
According to the data, some of the groups best at exercising are not the best at healthy eating. Hispanics – the group least likely to meet activity guidelines – were the most likely to have a fruit and vegetable at least once per day (71%). About half of those 55 and older ate a fruit and vegetable, the groups least likely to exercise.¹⁷² The age group that was most likely to eat produce was the 35- to 44-year-olds, perhaps because this group may have children in the house and the parents are encouraging healthy eating.

Health Disparities: Substance Abuse

Does drinking and smoking vary by population group? Earlier in this report we provided data on teens' use of substances and their ease of obtaining substances that are illegal for them to use (e.g., marijuana, alcohol, drugs without a prescription). There were also findings from the Navajo Nation on the use of substances, for example, that men are more likely than women to binge drink there and chewing tobacco is used more often than cigarettes. This section will examine several groups of Navajo County residents and their use of substances.

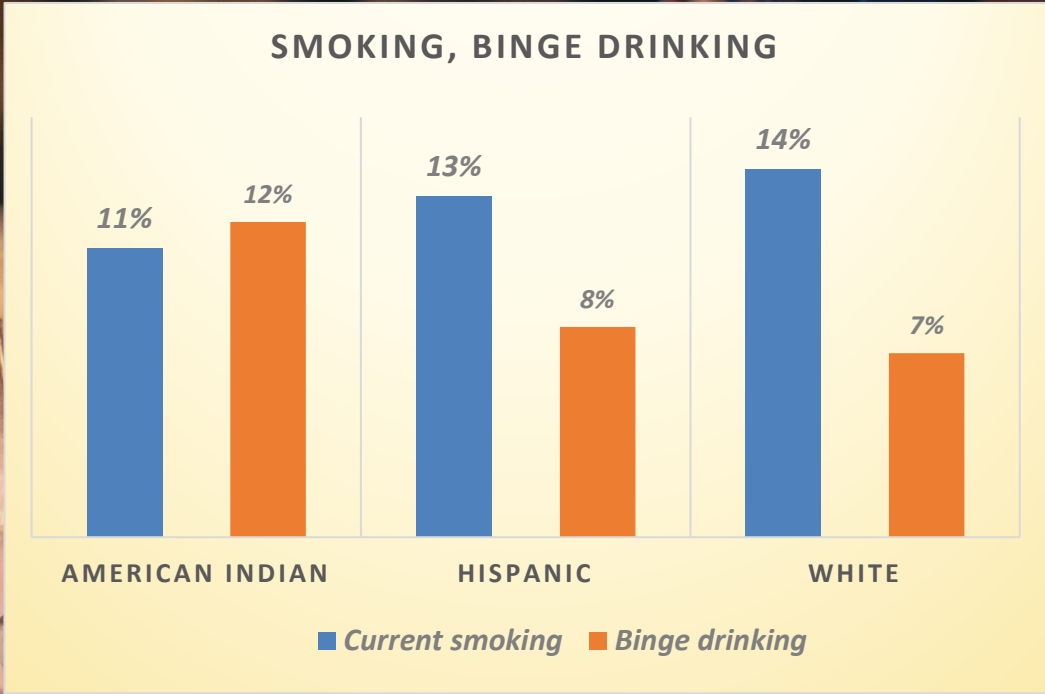
In general, men are more likely than women to practice risky health behaviors and die of preventable causes, as shown in the graphic below¹⁷³:



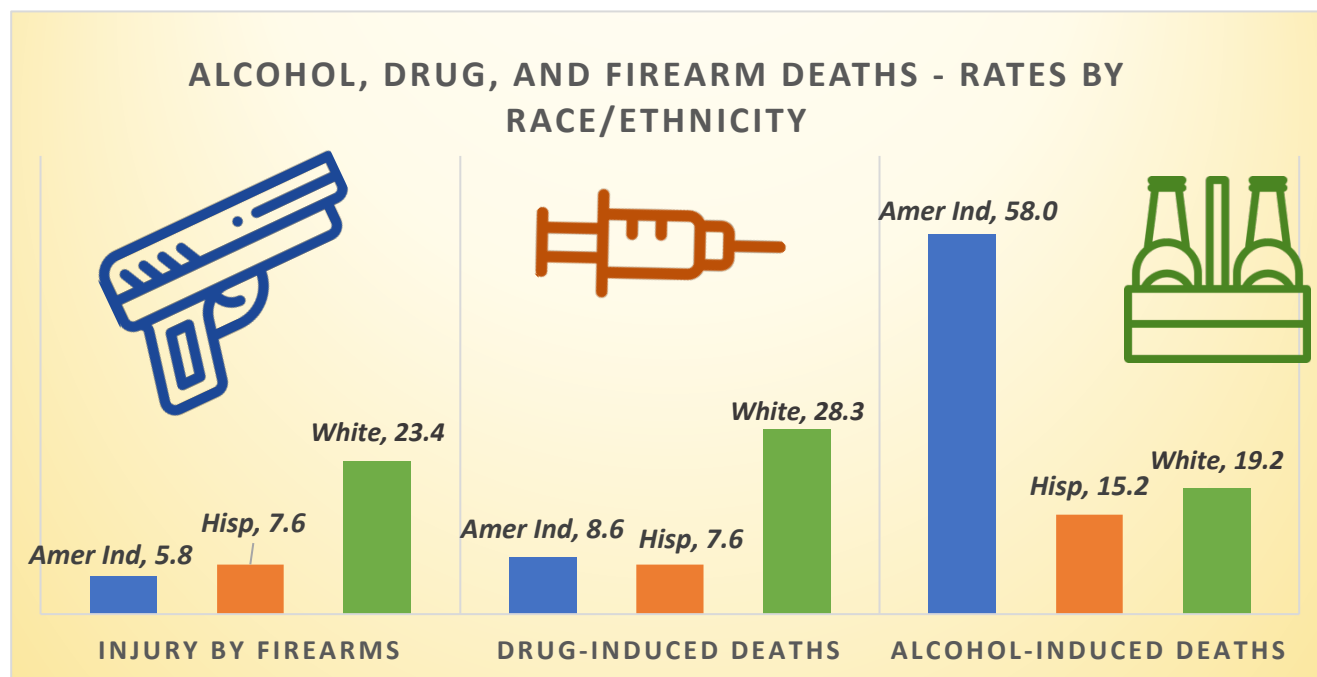


While there appears to be a relationship between substance abuse and gender in Navajo County, there is also an effect of age. For example, younger adults reported they are most likely to binge

drink and binge drinkers become less common in the older age groups, as shown above. Smoking was distributed across age groups but there is a peak in the 25- to 35-year-old group.¹⁷⁴ The fact that smoking was at the same levels for younger residents as older residents demonstrates that there are residents starting new tobacco addictions, even in the current era in which the dangers of tobacco are well established.



Different race/ethnic groups practice some healthy and unhealthy behaviors related to substance abuse differently. For example, American Indians, Hispanics, and whites reported similar levels of smoking – between 11% and 14% of all groups are smokers. These figures represent residents who smoke cigarettes and do not include use of chewing tobacco. If chewing tobacco were added, the rates might be higher for any or all groups. Deaths related to substance abuse showed a similar pattern with American Indians having the highest percentage of alcohol-induced deaths. Whites, however, were more likely than the other groups to die from drug-induced and firearm deaths.¹⁷⁵



Health Disparities: Deaths, Chronic Diseases, and Injuries

The leading causes of death by gender show little difference between the top three causes for men compared to women. Both groups had heart disease, cancer and accidents as the first three leading causes of death, as was the case for the population as a whole. However, as shown in the table below, the rate is much higher for males – three times higher for accidents.¹⁷⁶

Leading Causes of Death by Gender, Navajo County, 2016 (Rate per 100,000 Residents)		
	Female	Male
1st Cause	Heart Disease (141.6)	Heart Disease (252.5)

2nd Cause	Cancer (116.1)	Cancer (162.0)
3rd Cause	Accidents (45.6)	Accidents (154.3)

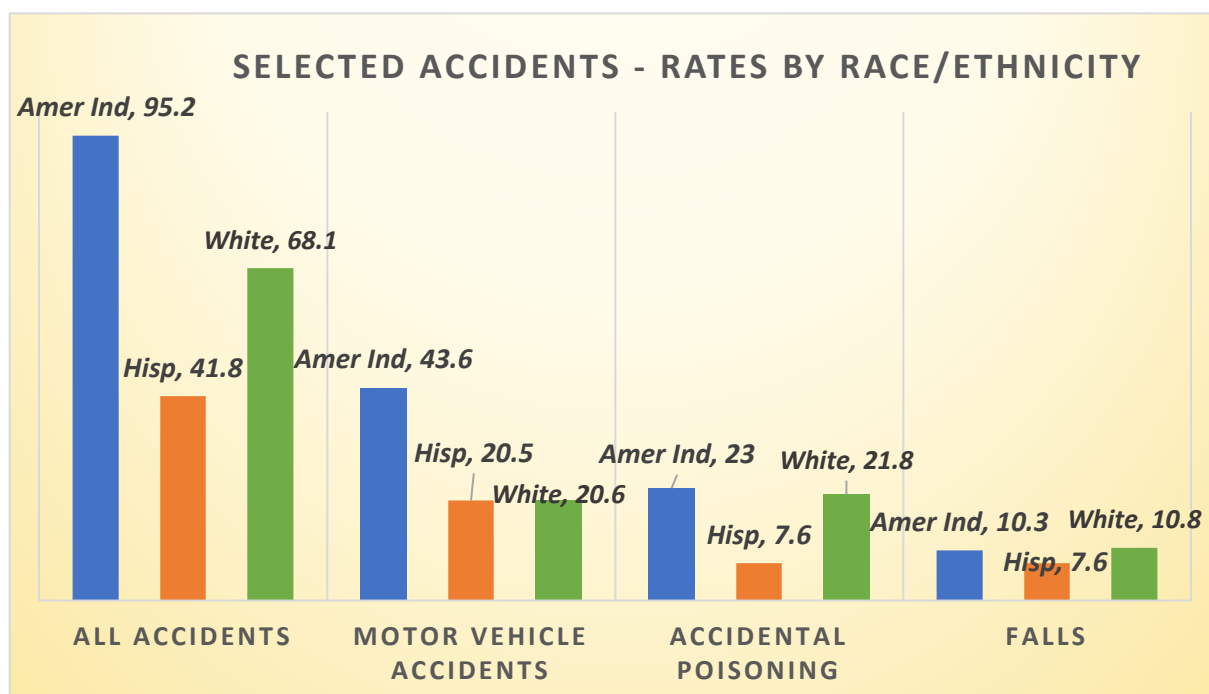
As might be expected, the top causes of death differ for different age groups. Among older residents, heart disease and cancer lead the causes and chronic lower respiratory disease, also known as chronic obstructive pulmonary disease (COPD), is a common cause of death for the elderly. As shown below, the rate of deaths among younger residents was much lower than for older residents but accidents were common causes for those under 45-years-old. Among residents 20-44 years old, the accident death rate at 145.2 deaths per 100,000 residents in the age group was almost three times as high as the rate for Arizonans in the same age group (49.4). Suicide was the second leading cause of death for the same groups and homicide (assault) was the third cause for those under 20-years-old.¹⁷⁷

Leading Causes of Death by Age Group, Navajo County, 2016 (Rate per 100,000 Residents)					
	1-14 yr old	15-19 yr old	20-44 yr old	45-64 yr old	65 yr old and older
1st Cause	Accidents (14.1)	Accidents (47.5)	Accidents (145.2)	Cancer (158.3)	Heart disease (781.2)
2nd Cause	Suicide (2.9)	Suicide (36.8)	Suicide (53.7)	Heart disease (143.5)	Cancer (720.7)
3rd Cause	Assault (2.5)	Assault (10.7)	Chronic liver disease/ Cirrhosis (47.4)	Accidents (106.7)	Chronic lower respiratory disease (275.1)

For race/ethnicity, there is a pattern that might be expected considering the differing risk behaviors, discussed earlier in this report. American Indians most often died from accidents, followed by heart disease and cancer, the latter two of which are common causes for all race/ethnic groups. Hispanics, too, had accidents in the top three causes, while whites had causes typically associated with the elderly, as shown below.¹⁷⁸

Leading Causes of Death by Race/Ethnicity, Navajo County, 2016 (Rate per 100,000 Residents)			
	American Indian	Hispanic	White
1st Cause	Accidents (95.2)	Heart Disease (95.8)	Heart Disease (290.9)
2nd Cause	Heart Disease (95.0)	Cancer (76.0)	Cancer (241.5)
3rd Cause	Cancer (63.1)	Accidents (41.8)	Chronic lower respiratory disease (81.8)

Accident deaths can be segmented into different types, and there are race/ethnic differences within this category. The most common accident deaths for American Indians was related to motor vehicles in 2016, followed by accidental poisonings (such as drug or alcohol overdoses, ingestion of a poisonous substance). For Hispanics, rates were lower for all types of accidents, but motor vehicle-related were the most common. Motor vehicle accidents and accidental poisonings were the most common types of accident death for whites.¹⁷⁹



The three tribal communities that overlap with Navajo County, had patterns similar to each other. These three communities had more deaths among people under 65 than did the non-tribal communities in Navajo County as shown below. In fact, in 2016, the White Mountain Apache Tribe had more residents die before the age of 65 than after that age. For the Navajo Nation, half died before 65 and half after.¹⁸⁰

Percent of Deaths by Community and Age Group, 2016

		Infants <1	Children 1-14	Adoles- cents 15-19	Young adults 20-44	Middle- aged adults 45-64	Elderly 65+
Arizona	56,480	1%	0%	0%	6%	19%	73%
HOPI TRIBE	90	0%	*	0%	17%	26%	60%
NAVAJO NATION	809	3%	1%	1%	18%	27%	50%
SHOW LOW	320	0%	*	0%	6%	19%	73%
SNOWFLAKE / HEBER	180	0%	*	0%	3%	17%	79%
WHITE MOUNTAIN APACHE TRIBE	110	*	*	*	32%	31%	32%
WINSLOW	190	*	*	*	19%	22%	54%
*Fewer than 6 individuals were in the cell and the exact number was suppressed to protect confidentiality.							



The table below contains limited information on leading causes of death in Navajo County communities and overlapping communities. Unfortunately, the data are limited as the number of deaths is relatively low in each community. Therefore, many cells have numbers too small to report while ensuring confidentiality. However, from what is available, it is clear that motor vehicle accidents, homicide, and alcohol induced deaths were higher in the tribal communities than in the other communities listed. Drug-induced deaths were higher in non-tribal communities, as were deaths from cardiovascular diseases. Suicide was more common among the White Mountain Apache Tribe and Winslow residents.¹⁸¹

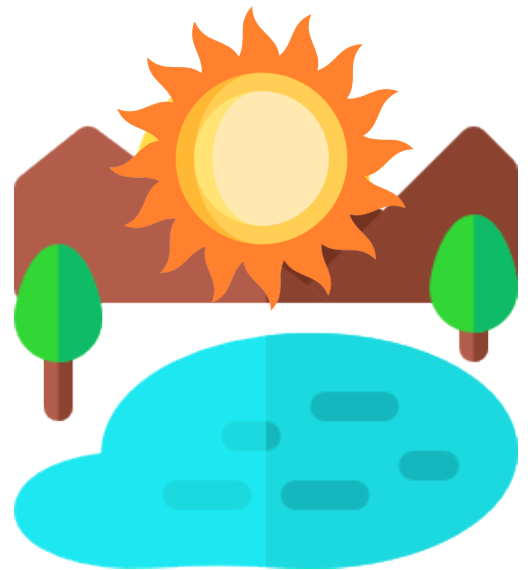
Percent of Deaths by Community and Selected Causes of Death, 2016										
	All causes	Cardio-vascular diseases	Lung cancer	Breast cancer	Motor vehicle accident	Homicide	Suicide	Injury by firearms	Drug-induced deaths	Alcohol-induced deaths
Arizona	56,480	28%	5%	2%	2%	1%	2%	2%	3%	2%
HOPI TRIBE	94	20%	0%	0%	9%	*	*	0%	*	11%
NAVAJO NATION	809	17%	*	1%	7%	2%	2%	1%	1%	13%
SHOW LOW	317	27%	6%	*	*	*	3%	3%	5%	2%
SNOWFLAKE / HEBER	181	29%	4%	*	*	*	3%	4%	*	*
WMAT	112	21%	0%	*	7%	*	6%	0%	*	19%
WINSLOW	186	22%	*	*	*	*	6%	*	4%	7%
*Fewer than 6 individuals were in the cell and the exact number was suppressed to protect confidentiality.										

Summary and Conclusions

Themes and Topics

The epidemiological data, community survey, focus groups, and meetings with leaders point to several themes or topics that are important to consider for improving the health of Navajo County residents. This report summarized many sources and types of data, so this list of themes may not be exhaustive. As the community meets to discuss issues and topics, the list may expand or change. Then, the Mobilizing Action for Partnerships and Planning (MAPP) community group will select priorities from the list in order to create a viable community health improvement plan.

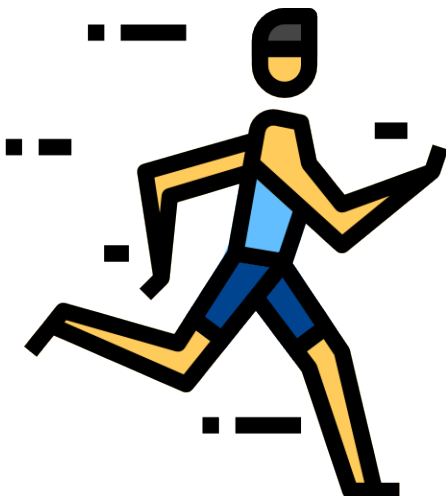
- Navajo County has community pride and cohesiveness, often with residents caring for each other and contributing to a “small town” feel.
- The natural beauty and clean air and water are greatly appreciated by residents and county leadership.
- Residents have some knowledge of healthy habits – from nutrition to medical check-ups - and make efforts to make these habits a part of their own lives and the lives of their children and other family members.
- Three independent tribal communities overlap with Navajo County boundaries.
 - On the positive side, this contributes to cultural diversity and exchange.
 - A challenge is that coordination between tribal communities and other entities is



not always seamless. At times, city, county, and tribal governments can be in “silos,” operating independently of each other.

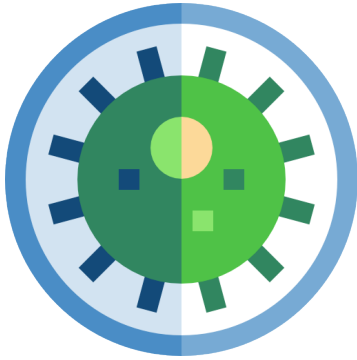
- The use and abuse of opioids, other drugs, and, most prominently, alcohol, plague the community and are of considerable concern to residents and leadership in the county. Substance abuse likely contributes to other issues such as motor vehicle accidents, domestic violence, suicides and more.

- Mental disorders are very common in Navajo County, yet resources are scarce. Residents want more more access to mental health counseling and treatment, including treatment for substance abuse.
- The overlap between substance abuse and mental disorders is proven and should be considered in health planning.
- Suicide is high in Navajo County and contributes to the number of potential life years lost in Navajo County, as does homicide and accidents.
- Joblessness and the economy have contributed to poverty in the county and many live below the poverty level.
 - This leaves many without health insurance, a group that residents consider most to have unmet needs.
 - This also leaves many without transportation, running water, or a safe place to live.
- Residents struggling with getting access to healthcare is evident in many ways and for many reasons. The rural nature of the county, the cost of having a vehicle, the shortage of providers, the cost of insurance, and other factors all contribute to residents not being able to get care when needed.
- Across the community, including tribal communities, the shortage of both healthcare and behavioral health professionals has reached critical levels. This situation affects not only the availability of appointments but also the patient-provider relationship, as a constant turnover prohibits a patient from developing a lasting relationship with one provider.



- Chronic diseases such as heart disease and cancer, although not particularly high compared to other communities, are still the leading causes of death and of concern to residents.
- Another chronic disease, diabetes, is common in the community. Diabetes is caused, or at least exacerbated, by obesity, poor eating and exercise habits, lack of access to

healthy foods and other factors.



- Sexually transmitted diseases – particularly chlamydia and gonorrhea – are a growing epidemic.
- Some communities and schools are not fully protected against measles, mumps or other vaccine-preventable diseases, putting other, more vulnerable populations at risk for vaccine preventable diseases such as measles and mumps.
- Navajo County has room to improve the number of pregnant women receiving early prenatal care in the first trimester.
- Children are a priority for residents and
 - Child abuse and neglect is a top concern for residents. Many feel that children are being neglected due to poor parenting and the availability of technology.
 - Children with disabilities or special needs number in the thousands in Navajo County and schools and other programs struggle to address the need.
 - Teens are a part of this category and are experiencing some high-risk situations such as living with an alcoholic and/or exhibiting high risk behaviors such as alcohol or drug consumption.
- Seniors are also a concern for residents and have unique health issues and needs. And, many of them are living with disabilities.
- Individuals with disabilities and/or special needs are in many households in Navajo County. They must deal with physical and/or emotional challenges, in addition to day-to-day needs such as transportation, shopping, and other necessary activities.
- American Indians, living both on and off of tribal lands in Navajo County, deserve special consideration due to a myriad of issues that affect them more than others in the community. Poverty, stress, diabetes, more low birth weight infants, alcohol abuse (mostly among men), teen pregnancy, isolation (both linguistically and physically), among other factors are heightened for American Indian residents.



Strategic Issues

The themes and topics mentioned above raise some important concerns related to health in Navajo County. The “strategic issues” listed below may elicit discussion about planning priorities.

Topic-oriented Issues

These issues are targeted specifically at a theme mentioned above, such as sexually transmitted diseases or access to healthcare.

1. How can we address **poverty** and related issues of unemployment, poor housing, lack of insurance, poor food/nutrition etc. to improve health and well-being?
2. How do we ensure that **cost** is never a barrier for receiving healthcare?
3. How do we ensure that every time a resident **needs healthcare**, he or she receives healthcare?
4. How do we recognize and meet the needs of our diverse population and ensure **access to the health care system**? Particularly for children, seniors, individuals with disabilities or special needs, Native Americans, individuals without insurance, and those living in the most rural areas?
5. How do we recruit and keep **qualified healthcare providers**, including behavioral health providers?
6. How do we join with tribal communities to address the **shortage of healthcare providers** – an issue for the tribes as well as others in Navajo County.
7. How do we address the epidemic of **substance abuse** in the community, including both legal and illegal use of drugs and use of alcohol?
8. How can we **prevent** future **substance abuse** and ensure **treatment** for those who are already experiencing addiction?
9. How do we address accidents, suicides, and homicides (“**injuries**”), especially among men and American Indians?
10. How do we reduce **motor vehicle accidents**, especially accidents related to substance abuse?

11. How do we promote healthy behaviors that prevent **chronic diseases** such as diabetes, heart disease, cancer, and other chronic conditions?
12. How do we change the way Navajo County residents think by changing the culture to one of **healthful living**?
13. How do we leverage our educational opportunities to disseminate health **knowledge, skills and attitudes**?
14. How do we increase access to healthy foods, especially in areas where **healthy foods** are less likely to be available?
15. How does the public health system get residents to meet the guidelines for **physical activity and strengthening** (thereby decreasing their risk for numerous chronic diseases such as diabetes and heart disease)?
16. How can we best use all of our resources (monetary and otherwise) to address **mental disorders**?
17. How do we provide a comprehensive, accessible **mental/emotional healthcare** system to our residents?
18. How do we prevent **suicide**, especially among high-risk groups such as men, individuals under 40, and American Indian residents?
19. How do we promote the well-being of our **children** within and across community agencies?
20. How do we promote the well-being of our **seniors** within and across community agencies?
21. How do we promote the well-being of our **individuals with disabilities/special needs** within and across community agencies?
22. How can we reduce sexually transmitted infections (**STIs**)?
23. What can we do to encourage **prenatal care** in the first trimester for all pregnant women?

24. How can we reduce **child abuse** and neglect?

“Big Picture” Issues

These strategic issues or questions are not specific to any particular health problem or topic. Rather, they focus on the system itself and what can be done to improve the entire system. These are broad and far-reaching strategic issues.

1. How do we gather, analyze, use and share **data** for program planning, evaluation and resource allocation?
2. How do we make the public **aware** of the public health **system** and all that it does?
3. How do we make the public **aware** of our **issues, goals, and plan** to engage them in the public health efforts we choose?
4. How do we ensure adequate **funding/resources** and appropriate allocation of resources?
5. How do we know we are **effective** with our programs?
6. How do we **prioritize** available community resources to fund programs?
7. How do we creatively allocate and utilize a spectrum of **resources** (not just money)?
8. How do we ensure the **quality** of the public health system?
9. How do we coordinate and collaborate with **tribal** communities to create a seamless public health/healthcare system?
10. How do we approach **controversial** issues that may be sensitive to some residents so that we can have an impact on these issues?
11. How does the public health system address public health issues effectively in **differing communities**? Does there need to be a different approach for each?

End Notes

¹ National Association of County and City Health Officers (NACCHO), *Mobilizing Action Through Planning and Partnerships (MAPP)*. <https://www.naccho.org/programs/public-health-infrastructure/performance-improvement/community-health-assessment/mapp>

² World Health Organization, Health Topics “Epidemiology.” <http://www.who.int/topics/epidemiology/en/>

³ Source for information: Robert Wood Johnson Foundation, County Health Rankings. www.countyhealthrankings.org/our-approach.

Source for graphic: PwC United States, “The case for intervening upstream,” <https://www.pwc.com/us/en/industries/health-services/case-for-intervening-upstream.html>

⁴ Healthy People 2020, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, “Social Determinants of Health,”

<https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>

Graphic from: Drawing Change, First Nations Health Authority, First Nations Health Directors Association, and First Nations Health Council Gathering Wisdom VI Conference, “Social Determinants of Health”

<https://drawingchange.com/gathering-wisdom-visuals-for-a-healthy-future/>

⁵ Navajo County, Arizona official website.

<http://www.navajocountyaz.gov/Government>

⁶ US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

<https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

⁷ US Department of the Interior, National Park Service, accessed May 2018.

[https://irma.nps.gov/Stats/SSRSReports/National%20Reports/Annual%20Visitation%20By%20Park%20\(1979%20-%20Last%20Calendar%20Year\)](https://irma.nps.gov/Stats/SSRSReports/National%20Reports/Annual%20Visitation%20By%20Park%20(1979%20-%20Last%20Calendar%20Year)) See detailed data table in Appendix A for visitors to Arizona State Parks.

⁸ Wikipedia “Navajo County, Arizona” entry. https://en.wikipedia.org/wiki/Navajo_County,_Arizona#Politics

⁹ Navajo Nation Official Website, <http://www.navajo-nsn.gov/index.htm>; Navajo Population Profile, 2010 U.S. Census, Navajo Division of Health, Navajo Epidemiology Center, Dec 2013. <http://www.nec.navajo-nsn.gov/>

¹⁰ . Source: Hopi Health Care Center, Hopi Tribal Programs & Hopi Foundation, *Sumitunatyat akw lomaqatsit pasiwnayani (Empowering and Creating a Pathway of Wellness Through Shared Goals), 2016 Health Summit Report*. Unpublished report, courtesy of Hopi and Indian Health Service.

¹¹ White Mountain Apache Tribe official website. <http://www.wmat.nsn.us/>

¹² US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

<https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

¹³ The old-age dependency ratio is derived by dividing the population 65 and over by the 18-to-64 population and multiplying by 100. The child dependency ratio is derived by dividing the population under 18 by the 18-to-64 population and multiplying by 100. Data for age groups is from the U.S. Census, American Community Survey, 2012-2016. <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

¹⁴ This estimate was made as follows:

For White Mountain Apache Tribe: Arizona Department of Health Services, *Statistical Profile for Primary Care Area, 2017*. Population in this report with any significant population centers outside Navajo County subtracted.

<https://azdhs.gov/documents/prevention/health-systems-development/data-reports-maps/primary-care/navajo/16.pdf>

For Hopi, Navajo: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

<https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml> Population in this report with any significant population centers outside Navajo County subtracted from the total.

For Navajo Nation: Navajo Division of Health, Navajo Epidemiology Center, *Navajo Population Profile Report, 2010 US Census*, Dec 2013. Co-residents of Navajo Nation and Navajo County were estimated by adding up the populations of agencies that have a majority of land in Navajo County.

<http://www.nec.navajo-nsn.gov/Portals/0/Reports/NN2010PopulationProfile.pdf> (See data table in Appendix A for more information.)

¹⁵ Navajo County Community Health Assessment (“CHA”) focus groups were held in the spring of 2018 in Show Low and Winslow. The sample and method are described in Chapter 1 of this report and full results are in Appendix C. Henceforth, any quotations or conclusions from the focus groups will be referred to as “CHA Focus Groups” and will not be referenced again in the end notes.

¹⁶ Source for data and maps: Robert Wood Johnson Foundation, County Health Rankings & Roadmaps, 2018. <http://www.countyhealthrankings.org/app/arizona/2018/rankings/navajo/county/outcomes/overall/snapshot>

¹⁷ The Navajo County Community Health Assessment (“CHA”) Survey was fielded in the spring of 2018. The sample and method are described in Chapter 1 of this report and full results are in Appendix B. Henceforth, any quotations or conclusions from the survey will be referred to as “CHA Survey” and will not be referenced again in the end notes.

¹⁸ Northern Arizona Council of Governments, *2016-17 Community Needs Assessment*. <https://nacog.org/filelibrary/Community%20Needs%20Assessment%202018.pdf>

¹⁹ Arizona Department of Health Services (ADHS), Arizona Behavioral Risk Factor Surveillance System (BRFSS). Navajo County figure is from Navajo County Public Health Services District analysis of unpublished BRFSS dataset, 2011-16. State and US figures are from ADHS, *Arizona Behavioral Risk Factor Surveillance System Annual Report, 2015*. <http://azdhs.gov/documents/preparedness/public-health-statistics/behavioral-risk-factor-surveillance/annual-reports/brfss-annual-report-2015.pdf>

²⁰ Arizona Department of Health Services (ADHS), Arizona Behavioral Risk Factor Surveillance System (BRFSS). Navajo County figure is from Navajo County Public Health Services District analysis of unpublished BRFSS dataset, 2011-16. State and US figures are from ADHS, *Arizona Behavioral Risk Factor Surveillance System Annual Report, 2015*. <http://azdhs.gov/documents/preparedness/public-health-statistics/behavioral-risk-factor-surveillance/annual-reports/brfss-annual-report-2015.pdf>

²¹ Arizona Department of Health Services, Bureau of Public Health Statistics, Arizona Health Status and Vital Statistics 2016 Annual Report. <http://pub.azdhs.gov/health-stats/report/ahs/ahs2016/index.php?pg=counties>

²² ChangePoint Integrated Health, unpublished data. Navajo County Public Health Services District analysis of data.

²³ Source: Arizona Criminal Justice Commission, *Arizona Youth Survey 2016*. http://www.azcjc.gov/sites/default/files/pubs/AYSReports/2016/2016_AYS_Navajo_County_Profile_Report.pdf

²⁴ Arizona Department of Health Services, *Arizona Health Status and Vital Statistics 2016 Annual Report*. <http://pub.azdhs.gov/health-stats/report/ahs/ahs2016/index.php?pg=counties> U.S. figure is from Centers for Disease Control and Prevention, “Suicide Rates in the United States Continue to Increase,” NCHS Data Brief No. 309, June 2018. <https://www.cdc.gov/nchs/products/databriefs/db309.htm>

²⁵ Arizona Department of Health Services (ADHS), Bureau of Public Health Statistics, *Arizona Health Status and Vital Statistics 2016 Annual Report*.
<http://pub.azdhs.gov/health-stats/report/ahs/ahs2016/index.php?pg=counties>

²⁶ Arizona Department of Health Services (ADHS), Arizona Behavioral Risk Factor Surveillance System (BRFSS). Navajo County Public Health Services District analysis of unpublished BRFSS dataset, 2011-16.

²⁷ Obese and overweight are calculated from body mass index (BMI). BMI is calculated by dividing the respondent's self-reported weight in kilograms by the height in meters, squared. ADHS, *Arizona Behavioral Risk Factor Surveillance System Annual Report, 2015*. <http://azdhs.gov/documents/preparedness/public-health-statistics/behavioral-risk-factor-surveillance/annual-reports/brfss-annual-report-2015.pdf>

²⁸ The diabetes question asks if the respondent has ever been diagnosed with diabetes. ("Has a doctor, nurse, or other healthcare professional ever told you that you have diabetes?"). ADHS, *Arizona Behavioral Risk Factor Surveillance System Annual Report, 2015*. <http://azdhs.gov/documents/preparedness/public-health-statistics/behavioral-risk-factor-surveillance/annual-reports/brfss-annual-report-2015.pdf>

²⁹ The recommended amount of fruits and vegetables is three vegetables and two fruits per day. Data for fruit/vegetable consumption was collected only in 2013 and 2015. Source: Navajo County Public Health Services District, analysis of Behavioral Risk Factor Surveillance System dataset from Arizona Department of Health Services (ADHS). Unpublished data.

³⁰ Department of Health and Human Services, 2008 *Physical Activity Guidelines for Americans*.
<https://health.gov/paguidelines/guidelines/>

³¹ Navajo County Public Health Services District, analysis of Behavioral Risk Factor Surveillance System dataset from Arizona Department of Health Services (ADHS). Unpublished data.

³² Arizona Department of Health Services (ADHS), Bureau of Public Health Statistics, *Arizona Health Status and Vital Statistics 2016 Annual Report*.
<http://pub.azdhs.gov/health-stats/report/ahs/ahs2016/index.php?pg=counties>

³³ Navajo County Public Health Services District, analysis of Behavioral Risk Factor Surveillance System dataset from Arizona Department of Health Services (ADHS). Unpublished data.

³⁴ Arizona Criminal Justice Commission, Arizona Youth Survey 2016
http://www.azcjc.gov/sites/default/files/pubs/AYSReports/2016/2016_AYS_Navajo_County_Profile_Report.pdf

³⁵ National Highway Traffic Safety Administration, *Fatality Analysis Reporting System (FARS) 2016 Report*.
<https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812554>

³⁶ Arizona Department of Health Services (ADHS), Bureau of Public Health Statistics, *Arizona Health Status and Vital Statistics 2016 Annual Report*.
<http://pub.azdhs.gov/health-stats/report/ahs/ahs2016/index.php?pg=counties>

³⁷ U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion, Healthy People 2020. <https://www.healthypeople.gov/2020/About-Healthy-People>

³⁸ Arizona Department of Health Services (ADHS), Bureau of Public Health Statistics, *Arizona Health Status and Vital Statistics 2016 Annual Report*.
<http://pub.azdhs.gov/health-stats/report/ahs/ahs2016/index.php?pg=counties>

³⁹ Arizona Department of Health Services, Bureau of Public Health Statistics, *Arizona Health Status and Vital Statistics 2016 Annual Report*.

<http://pub.azdhs.gov/health-stats/report/ahs/ahs2016/index.php?pg=counties>

⁴⁰ Source: Arizona Criminal Justice Commission, *Arizona Youth Survey 2016*.

http://www.azcjc.gov/sites/default/files/pubs/AYSReports/2016/2016_AYS_Navajo_County_Profile_Report.pdf

⁴¹ Arizona Department of Health Services, Opioid Surveillance Program, 2018. Unpublished data. More information on opioid reports at this link:

<https://www.azdhs.gov/prevention/womens-childrens-health/injury-prevention/opioid-prevention/index.php>

⁴² Arizona Department of Health Services (ADHS), Bureau of Public Health Statistics, *Arizona Health Status and Vital Statistics 2016 Annual Report*.

<http://pub.azdhs.gov/health-stats/report/ahs/ahs2016/index.php?pg=counties>

⁴³ Map includes June 15, 2017 through June 14, 2018. Arizona Department of Health Services, Opioid Surveillance Program, 2018. <https://www.azdhs.gov/documents/prevention/womens-childrens-health/injury-prevention/opioid-prevention/opioid-report.pdf>

⁴⁴ Arizona Department of Health Services, Opioid Surveillance Program, 2018, unpublished data and link below:

<https://www.azdhs.gov/documents/prevention/womens-childrens-health/injury-prevention/opioid-prevention/opioid-report.pdf>

⁴⁵ Arizona Department of Health Services, Opioid Surveillance Program, 2018, unpublished data.

⁴⁶ Arizona Department of Health Services, Opioid Surveillance Program, 2018, unpublished data.

⁴⁷ ADHS, *Arizona Behavioral Risk Factor Surveillance System Annual Report, 2015*.

<http://azdhs.gov/documents/preparedness/public-health-statistics/behavioral-risk-factor-surveillance/annual-reports/brfss-annual-report-2015.pdf>

⁴⁸ Source: Arizona Criminal Justice Commission, *Arizona Youth Survey 2016*.

http://www.azcjc.gov/sites/default/files/pubs/AYSReports/2016/2016_AYS_Navajo_County_Profile_Report.pdf

⁴⁹ ADHS, *Arizona Behavioral Risk Factor Surveillance System Annual Report, 2015*.

<http://azdhs.gov/documents/preparedness/public-health-statistics/behavioral-risk-factor-surveillance/annual-reports/brfss-annual-report-2015.pdf>

⁵⁰ U.S. Census Bureau, 2012-2016, American Community Survey 5-Year Estimates as published in Northern Arizona Council of Governments, *2016-17 Community Needs Assessment*.

<https://nacog.org/filelibrary/Community%20Needs%20Assessment%202018.pdf>

⁵¹ US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

<https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

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<http://livingwage.mit.edu/counties/04017>

⁵³ Northern Arizona Council of Governments, *2016-17 Community Needs Assessment*.

<https://nacog.org/filelibrary/Community%20Needs%20Assessment%202018.pdf>

⁵⁴ Arizona Department of Health Services, Population Health and Vital Statistics, <https://pub.azdhs.gov/health-stats/menu/index.php?pg=divorces>

⁵⁵ US Census Bureau, Population Division, *Estimates of the Components of Resident Population Change: April 1, 2010 to July 1, 2017*.

<https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>

⁵⁶ US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

<https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

⁵⁷ First Things First, "Our Mission," accessed in June 2018. <https://www.firstthingsfirst.org/what-we-do/our-mission/>

⁵⁸ Maricopa Association of Governments, MapLIT (Advancing Early Literacy Outcomes), County Summary for Navajo County, 2017. <http://geo.azmag.gov/maps/readonaz/#>

⁵⁹ Maricopa Association of Governments, MapLIT (Advancing Early Literacy Outcomes), County Summary for Navajo County, 2017. <http://geo.azmag.gov/maps/readonaz/#>

⁶⁰ US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

<https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

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<https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

⁶² Source for national sites: US Department of the Interior, National Park Service, accessed May 2018.

[https://irma.nps.gov/Stats/SSRSReports/National%20Reports/Annual%20Visitation%20By%20Park%20\(1979%20-%20Last%20Calendar%20Year\)](https://irma.nps.gov/Stats/SSRSReports/National%20Reports/Annual%20Visitation%20By%20Park%20(1979%20-%20Last%20Calendar%20Year))

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<http://www.azwater.gov/AzDWR/StatewidePlanning/WaterAtlas/EasternPlateau/Climate/LittleColoradoRiver.htm>

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⁶⁶ CLIMAS. As appears in the *Climate of the Eastern Plateau Planning Area*"

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⁷¹ Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates, ACS DEMOGRAPHIC AND HOUSING ESTIMATES (Table DP05)

<https://www.census.gov/quickfacts/fact/table/apachecountyarizona,navajocountyarizona/HSG445216>

⁷² The four severe housing problems are: incomplete kitchen facilities; incomplete plumbing facilities; more than 1 person per room; and cost burden greater than 50%. Source: Office of Policy Development and Research, U.S. Department of Housing and Urban Development, 2010-2014.

<https://www.huduser.gov/portal/datasets/cp.html>

⁷³ Northern Arizona Council of Governments, *2016-17 Community Needs Assessment*.

<https://nacog.org/filelibrary/Community%20Needs%20Assessment%202018.pdf>

⁷⁴ Northern Arizona Council of Governments, *2016-17 Community Needs Assessment*.

<https://nacog.org/filelibrary/Community%20Needs%20Assessment%202018.pdf>

⁷⁵ The Point in Time survey is done once per year by the Arizona Department of Housing. Volunteer and agency staff recruit respondents at feeding programs and other gathering locations and ask individuals to participate in the survey. "Only persons who slept in a place not meant for human habitation, such as a car, on the street, in a riverbed, in the forest, or some similar location were counted." Not included in the unsheltered count were individuals who had spent the previous night in a shelter, a friend's home, or motel room, etc. In 2017, 631 surveys were collected among unsheltered individuals, and separately, 301 were collected among sheltered individuals across Arizona.

Source: Arizona Department of Housing, *2017 Point in Time Report*, 2017.

<https://housing.az.gov/sites/default/files/documents/files/2017-PIT-BOSCOC-Narrative-Report-06-2017.pdf>

⁷⁶ All data in this section are from the Federal Bureau of Investigations, Crime in the U.S., FBI Uniform Crime Report, <https://ucr.fbi.gov/crime-in-the-u.s>

⁷⁷ Table includes number of offenses reported by sheriff's office or county police department.

Federal Bureau of Investigations, Crime in the U.S., FBI Uniform Crime Report, <https://ucr.fbi.gov/crime-in-the-u.s>

⁷⁸ Source: Arizona Criminal Justice Commission, Arizona Youth Survey 2016

http://www.azcjc.gov/sites/default/files/pubs/AYSReports/2016/2016_AYS_Navajo_County_Profile_Report.pdf

⁷⁹ Source: Arizona Criminal Justice Commission, Arizona Youth Survey 2016

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⁸⁰ Annie E. Casey Foundation, Kids Count Reports, 2017. Includes *reports* appropriate for investigation for children 0-17. If more than one report is taken on an individual child, it is counted only once. A report for multiple children is also counted once. <https://datacenter.kidscount.org/data/tables/214-reports-of-child-abuse-and-neglect?loc=4&loct=5#detailed/5/198-212/false/871,870,573,869,36,868,867,133,38,35/any/642>

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https://des.az.gov/sites/default/files/media/DVSF_Report_2017.pdf

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<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/>

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<https://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas/>

⁸⁵ Source: United States Department of Agriculture, Economic Research Service.
<https://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas/>

⁸⁶ White Mountain Community Garden Facebook page. Accessed July 2018. <http://www.wmcgarden.org/>

⁸⁷ An article on the Sweetland Community Garden appeared in The Tribune on June 27, 2017.
<https://tribunenewsnow.com/sweetland-community-garden/>

⁸⁸ *Ndee Bikiyaa* Facebook page
https://www.facebook.com/pg/ndeebikiyaathepeoplesfarm/about/?ref=page_internal

⁸⁹ A list of various scholarly publications and their conclusions on the benefits of community gardens may be found at North Carolina State Cooperative Extension website at:
<https://nccommunitygardens.ces.ncsu.edu/nccommunitygardens-research/>

⁹⁰ Navajo Nation has an effort to train gardeners to learn “ecologically sustainable gardening methods.” See link for more information: <https://navajotimes.com/ae/community/garden-expert-wants-create-oasis-food-desert/>

⁹¹ Northern Arizona Council of Governments, *2016-17 Community Needs Assessment*.
<https://nacog.org/filelibrary/Community%20Needs%20Assessment%202018.pdf>

⁹² Map and information, Indian Health Service, www.ihs.gov/locations/

⁹³ Public Records Coordinator, Arizona Medical Board and Arizona Regulatory Board of Physicians Assistant. Unpublished data. Website: <https://www.azmd.gov/>

⁹⁴ American Association of Physician Assistants. Accessed June 2018. <https://www.aapa.org/>

⁹⁵ U.S. Department of Health and Human Services, Health Resources and Services Administration, Data Warehouse.
<https://datawarehouse.hrsa.gov/Tools/MapTool.aspx?tl=HPSA>=State&cd=04&dp=PC,DC,MH>

⁹⁶ *Number of active providers, and ratio to population of Family Practice, General Practice, Gynecology, Internal Medicine, Obstetrics and Gynecology, Obstetrics, Pediatrics (MDs) physicians, all active Osteopathic Physicians (DOs), Nurse Practitioners (NPs) and Physician Assistants (PAs) working in Primary Care (includes federal doctors). NPs and PAs are counted as 0.8 of an MD full-time equivalent. **A general hospital is defined by the Arizona Department of Health Services as a short-stay, acute care, non-federal general hospital. For a “yes” designation in this category, the hospital must be within a driving time of 35 minutes or less. There are 67 general hospitals in the state. ***The transportation score is determined by six indicators including % of population with annual income less than 100% of poverty line, % population over 65 and under 14, % of population with disability, % of population without a motor vehicle, and the motor vehicle to population ratio. The higher the score, the less adequate or greater the need for transportation. Source: Sanderson, K, H. Williamson, E. Eaves, S. Barger, C. Hepp, K. Elwell, R. Camplain, K. Winfree, Trotter, R., Baldwin, J., Center for Health Equity Research (CHER), Northern Arizona

University, *Advanced Wellbeing in Northern Arizona: A Regional Health Equity Assessment*, September 6, 2017. Used with permission from CHER.

http://cher.nau.edu/wp-content/uploads/2017/09/Wellbeing-in-Arizona_Final-9_22_17.pdf

⁹⁷ National Institutes of Health, National Institute on Drug Abuse, “Comorbidities with Substance Use Disorders,” February 2018. <https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders/part-1-connection-between-substance-use-disorders-mental-illness>

⁹⁸ US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

⁹⁹ Northern Arizona Council of Governments, *2016-17 Community Needs Assessment*. <https://nacog.org/filelibrary/Community%20Needs%20Assessment%202018.pdf>

¹⁰⁰ Navajo Epidemiology Center, Navajo Department of Health, 2013 Navajo Nation Health Survey, Chinle Agency Results. Link: <http://www.nec.navajo-nsn.gov/Portals/0/Reports/NNHS%20Phase%201%20Highlights.pdf>

¹⁰¹ Robinson, Susan, Arizona Department of Health Services, Epidemiology Division, *Measles Outbreak in a Detention Center, 2016*. <https://www.azdhs.gov/documents/preparedness/epidemiology-disease-control/food-safety-environmental-services/sanitarrians-council/news/measles-outbreak-in-detention-center.pdf>

¹⁰² Arizona Department of Health Services, Arizona Immunization Program, *2017 Immunization Data Report*. <https://www.azdhs.gov/preparedness/epidemiology-disease-control/immunization/index.php#reports-immunization-coverage>

¹⁰³ A good summary of the history and research on vaccinations, see The College of Physicians of Philadelphia, “Do Vaccines Cause Autism?” January 2018. <https://www.historyofvaccines.org/content/articles/do-vaccines-cause-autism>

¹⁰⁴ Measured by number and percentage of schools who have at least 95% of students that are up-to-date with measles, mumps, rubella (MMR) vaccine, as reported through the Arizona Department of Health Services, Arizona Immunization Program *2016-17 Immunization Data Report*. <https://www.azdhs.gov/preparedness/epidemiology-disease-control/immunization/index.php#reports-immunization-coverage>

¹⁰⁵ Arizona Department of Health Services, Arizona Immunization Program, *2017 Immunization Data Report*. <https://www.azdhs.gov/preparedness/epidemiology-disease-control/immunization/index.php#reports-immunization-coverage>

¹⁰⁶ Screening data counts were from unpublished data provided by each of the facilities listed: ChangePoint Integrated Health, Summit Healthcare, and North Country Healthcare. July 2018. A blank cell does not mean that there were no/zero visits, but rather that there was no information provided for that topic. Not all screenings are listed. See data table in Appendix A for full list.

¹⁰⁷ Screening data counts were from unpublished data provided by each of the facilities listed: ChangePoint Integrated Health, Summit Healthcare, and North Country Healthcare. July 2018. See end note above.

¹⁰⁸ US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

¹⁰⁹ All information in this chapter is from the following document unless otherwise noted: Hopi Health Care Center, Hopi Tribal Programs, and the Hopi Foundation, 2016 Hopi Health Summit, “*Sumitunatyat akw lomaqatsit*

pasiwnayani” (“Empowering and creating a pathway of wellness through common and shared goals”). Presentation courtesy of Hopi Health Care Center.

¹¹⁰ Arsenic in water has been found to be above acceptable levels on Hopi lands. Links to illnesses can’t be confirmed. See, for example, Wildeman, M.K., The Arizona Republic, “Arsenic in Hopis’ water twice the EPA limit and it may be making them sick,” 8/24/16.
<https://www.azcentral.com/story/news/local/arizona-water/2016/08/24/natural-arsenic-poisons-hopi-reservation-water/88317458/>

¹¹¹ Hopi Tribe website, Hopi Wellness Center page, accessed May 2018.
<https://www.hopi-nsn.gov/tribal-services/departments-of-community-health-services/hopi-wellness-center/>

¹¹² Navajo Epidemiology Center, Navajo Nation Department of Health, *Navajo Nation Mortality Report, Arizona and New Mexico Data, 2006-2009*. <http://www.nec.navajo-nsn.gov/Portals/0/Reports/Vital%20Statistics%20Report%202006%20to%202009%20FINAL.pdf>

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<http://www.nec.navajo-nsn.gov/Portals/0/Reports/NNHS%20Phase%201%20Highlights.pdf>

¹¹⁴ Navajo Nation Division of Health, Health Education Program *2011 Navajo Nation Middle School Youth Risk Behavior Survey Report*, October 2013.
<http://www.nec.navajo-nsn.gov/Portals/0/Reports/2011%20NYRBS%20MS%20Report%20-%20Final.pdf>

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¹¹⁶ U.S. Census, 2012-2016 American Community Survey 5-Year Estimates.
https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_DP03&prodType=table

¹¹⁷ Source: Navajo Epidemiology Center, Navajo Department of Health, *2013 Navajo Nation Health Survey, Chinle Agency Results*. Link: <http://www.nec.navajo-nsn.gov/Portals/0/Reports/NNHS%20Phase%201%20Highlights.pdf>

¹¹⁸ Navajo Nation: Navajo Nation Health Department, *2013 Navajo Nation Health Survey, Chinle Agency Results*. Navajo County: Navajo County Public Health Services District, analysis of Behavioral Risk Factor Surveillance System dataset from Arizona Department of Health Services (ADHS). State and U.S.: Arizona Department of Health Services, *Behavioral Risk Factor Surveillance System 2015 Annual Report*. Methodology may have differed for Navajo Nation survey.

¹¹⁹ Additional measures in detailed data tables. Source: Navajo Epidemiology Center, Navajo Department of Health, *2013 Navajo Nation Health Survey, Chinle Agency Results*. Figures used for comparisons have been age-adjusted. Link: <http://www.nec.navajo-nsn.gov/Portals/0/Reports/NNHS%20Phase%201%20Highlights.pdf>

¹²⁰ Additional measures in detailed data tables. Source: Navajo Epidemiology Center, Navajo Department of Health, *2013 Navajo Nation Health Survey, Chinle Agency Results*. Figures used for comparisons have been age-adjusted. Link: <http://www.nec.navajo-nsn.gov/Portals/0/Reports/NNHS%20Phase%201%20Highlights.pdf>

¹²¹ Additional measures in detailed data tables. Source: Navajo Epidemiology Center, Navajo Department of Health, *2013 Navajo Nation Health Survey, Chinle Agency Results*. Figures used for comparisons have been age-adjusted. Link: <http://www.nec.navajo-nsn.gov/Portals/0/Reports/NNHS%20Phase%201%20Highlights.pdf>

¹²² Navajo Epidemiology Center, Navajo Department of Health, *2013 Navajo Nation Health Survey, Chinle Agency Results*. Figures used for comparisons have been age-adjusted. <http://www.nec.navajo-nsn.gov/Portals/0/Reports/NNHS%20Phase%201%20Highlights.pdf>

¹²³ Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016. <https://www.cdc.gov/brfss/brfssprevalence/>

¹²⁴ Additional measures in detailed data tables. Navajo Epidemiology Center, Navajo Department of Health, *2013 Navajo Nation Health Survey, Chinle Agency Results*.

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¹³⁰ Arizona Department of Health Services, *Arizona Health Status and Vital Statistics 2016 Annual Report*, 2016. <http://pub.azdhs.gov/health-stats/report/ahs/ahs2016/index.php?pg=counties>

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¹⁶⁰ The full criteria for eligibility is described at this link at the Arizona Department of Economic Security website:

<https://des.az.gov/services/disabilities/early-intervention/arizona-early-intervention-program-azeip-eligibility>

¹⁶¹ Source: Arizona Department of Health Services, *Arizona Health Status and Vital Statistics 2016 Annual Report*.

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¹⁶³ Includes Arizona Health Care Cost Containment System (AHCCCS) the State's Medicaid program and Indian Health Services (IHS). Low birth weight is <2,500 grams at birth. Source: Arizona Department of Health Services, *Arizona Health Status and Vital Statistics 2016 Annual Report*. <http://pub.azdhs.gov/health-stats/report/ahs/ahs2016/index.php?pg=counties>

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¹⁷⁵ Some numbers are rounded to the nearest 10 individuals to protect confidentiality. Firearm, drug, and alcohol deaths may come from any other category and thus, are not mutually exclusive from other categories or from each other. Source: Arizona Department of Health Services, Bureau of Public Health Statistics, unpublished data, 2006-16. Received May 31, 2018. Not age adjusted.

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